

THE SCHOOL REVIEW

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EDUCATIONAL NEWS AND EDITORIAL COMMENT

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WHO CONTROLS THE SCHOOLS?

WRITING in the March issue of the *Atlantic Monthly*, Albert Lynd, a parent, a school-board member, and an ex-teacher now established in business in Boston, comments in decidedly uncomplimentary terms on the professional preparation of teachers and the university faculties who work in this field. One of his theories is that professors of education, the "superprofessionals" as he calls them, exercise a monopolistic and dictatorial control over the schools. He says:

The superprofessionals who determine the kind of education to which your child must submit and for which you must pay your taxes are the professors of "education" in the larger universities and teachers' colleges. . . . The decisions of the educational panjandrums are not even remotely subject to the scrutiny of the citizens who pick up the check for the local schools. And these decisions are subject to change whenever the gift of tongues may descend upon a new prophet of pedagogy.

This control, according to Lynd, is exercised mainly through certification laws, which he implies have been lobbied through legislatures by the "superprofessionals," and through influence on appointments and promotions. The stockholder, the taxpayer, has no alternative, it would appear from this, but to bow to the wishes and whimsies of a nonresident managerial group. He may sign an occasional proxy if he wishes, but what difference does it make?

Lynd also pays his respects to the proliferation of courses in pedagogy as they are listed in college catalogues, as well as to the style in which descriptions of these courses are set forth. That education is not the only field of study in which instructional fragmentation has taken place is not discussed, since perhaps to have done so would have been irrelevant to Lynd's hypothesis. But it does seem that some distinction should be made between

the legitimacy of pedagogy as a field of study and the application in this field of a method of academic organization which has flourished in all academic areas since Charles Eliot and Harvard University undertook to sponsor the elective system.

The author concludes his argument by urging parents and, presumably, non-parents to undertake to break this throttling control by local action, although he anticipates small likelihood of success. Private schooling for those who can afford it seems the only escape. It all adds up to "Quackery in the Public Schools," as the article is titled.

Little is to be gained by trying to argue in a limited space the validity of the facts or the conclusions as they are presented by the author: that, for example, the proportion of a teacher's program in college controlled by "certification" requirements is comparatively small (notably in Massachusetts), leaving really a considerable block of time for such general education as faculties in other disciplines can devise; that the control of certain other professions over their members, their training, and their "certification" is at least as great as that exercised by the teaching profession; that the "super" professionals and most of those of the garden variety have for years tried to arouse genuine local interest in schools; that the academic accomplishments of modern youngsters stack up very favorably in comparison with those of similar youngsters some generations back.

Of course, the real and vital question is: What is happening to boys and girls in modern schools in consequence of modern education? It seems fair to assume that Lynd does not like the results which modern education, as he has seen it, produces, although he has little say on this score. He does expect, of course, that an investigation would show that present-day pupils cannot read or write or count as well as present-day adults could when they were in school.

This discussion of our schools and their professional leadership could be written off as the expression of the frustrations of a single school-board member, as not representative of the point of view of school-board members and parents across the country. But it ought not to be. It ought not, either, to be taken as a definitive criticism of modern education. Such data as it includes, both fact and opinion, ought to be assembled with other criticisms from within and without the teaching profession to see what conclusions can be drawn for both professionals and laymen regarding the control of our schools and the programs they offer.

For one thing, such an analysis of the ideas held by thoughtful and well-intentioned people (as distinguished from those of citizens whose only apparent aim is to reduce costs and taxes) would presumably show that the purposes and methods and accomplishments of modern schools are unknown to, let alone understood by, a large majority of adults in our com-

munities. Sharing of information and points of view does not automatically produce consensus, but it is an indispensable step. And the first step should be taken by the men and women with the most information—in this case, the school people.

It would also show that professionals and laymen in many communities simply do not know how to work together. This is true not only of groups working on educational problems but of men and women who have common interests in any phase of community life. Schools are likely to be best in those communities where men and women of good will have set about deliberately to apply the theory of democratic group action and problem-solving. Skill in making such application has to be learned, as anything has to be learned, and it can be learned only if everyone involved is willing to learn and is committed to democracy as a way of life. But it can be learned.

This analysis would probably also demonstrate that in too many communities school boards, as individuals and as groups, have refused to exercise their proper functions and to carry their proper responsibilities. There may be as much need for throwing a bright light on the operations of these publicly elected groups as upon the work of the professionals they employ.

But what of professors of education and the "adulterated pap" they allegedly dispense? Undoubtedly they, along with all other professors, would

be well advised to consider seriously the quality, quantity, and pertinence of the facts, ideas, and generalizations they undertake to develop with their students. Unplanned duplication, amplification of the obvious and insignificant, confusing opinions and prejudices with well-founded generalizations are undesirable in teaching at any level and in any field. Everyone would agree that there is much room for improvement in college teaching and in the design of college curriculums in all areas, including pedagogy. It has not been academically respectable, in times past, for professors to show much interest in, or concern with, the teaching methods which they use or which are used by their colleagues. Fortunately, there are a few hopeful signs that, within university faculties, doing a good job of teaching is gradually acquiring a new and higher respect and that efforts to develop more effective ways of teaching are being encouraged. Perhaps professors of education ought more widely to participate personally in such activities rather than to serve principally as counselors to others.

In conclusion, if there be quackery in the schools, public or private, it should be eliminated as rapidly and as completely as possible. But every citizen should be alert to distinguish between efforts to eliminate shoddy and inadequate workmanship in the schools and attempts to sabotage the public schools as a significant American social institution. Schools can and ought to be changed. But any en-

deavor to subvert the schools to serve the personal interests of pressure groups must be resisted vigorously. No evidence has been presented by Lynd or by any other writer which proves that professors of education as a group are undertaking to use the schools to satisfy their personal desires. But the existence of lay groups organized for such a purpose is well known. If the citizenry is to be aroused to protect the integrity of the public schools, it should be aroused to the dangers which the activities and intents of some of their fellow-citizens hold for their schools.

THE PROBLEM OF CONTESTS

ACROSS the desk of every school principal moves a steady flow of announcements of contests and competitions in which students are asked or encouraged to participate. Something is to be written or drawn or performed. While some of these contests are sponsored by professional groups whose purpose is to stimulate interest and accomplishment in their own subject areas, the real purposes of other groups are less clear. When the contest has local sponsorship, the pressure for participation by the school commonly cannot be resisted.

This assumes, of course, that resistance should be offered to participation. On this point school men evidently are not agreed. And the considerations bearing on a decision are by no means consistent in their implications. In general, though, the activ-

ity which the contest requires students to engage in has little inherent value, and it may, in fact, be detrimental. The influence on the winner and on the many losers when the outcome is announced can be liberally documented with tears and disappointments.

Equally important is the question whether the contest and its attendant activities really serve its announced purposes, especially when the purposes of the competition are laudable. Data to answer this question are not easy to come by. But a reasonable hypothesis is that contests seldom, if ever, do what the sponsors say they wish to see accomplished. If this is the case, the whole business is a waste of time and effort.

Apparently, the only honest position for a school to take with respect to contest participation is that it will not permit or encourage students and teachers to engage (1) in any activities which require diversion from, or addition to, the school's regular program or (2) in any contest in which participation has not evident educative value without regard to winning or losing. The application of such a straightforward policy is not without pitfalls.

What is to be done when a local organization proposes to subsidize a scholarship for the student who does best this, that, or the other? Some student will get the financial help he needs. A language organization offers a prize for excellence in pronunciation.

Why should not students who are studying language see how their competence stacks up with that of others? What is to be made of the fact that some students appear to enjoy competitive activities and to be stimulated by preparation for, and participation in, them? In an effort to be consistent, must a school eliminate all competitive experiences if it refuses to have a hand in the essay-writing business?

Clearly, as matters now stand, each school needs to work out its own policies in the light of local conditions. Radical changes in policy are usually unwise. If contest participation is to be reduced or eliminated, students, faculty, and the community must all be involved in the decision-making. More than that, teachers ought to be more inventive and constructive in aiding groups and individuals who have the needs of children at heart to develop other vehicles for implementing their interests. In addition, professional organizations should review their positions with respect to contest activities. A careful expression of policy by professional groups would be of real help to local school people who are trying to work their way toward a defensible position.

USEFUL PUBLICATIONS

A CHALLENGE which practically every school believes it meets unsuccessfully is the provision of a constructive program for slow learners. To provide its teachers with help in

working more constructively with pupils of limited ability, the Division of Secondary Education of the Office of the County Superintendent of Schools, Los Angeles County, has assembled a body of materials for use by the classroom teacher, counselor, and administrator in the secondary school. These materials are published in a monograph entitled *The Slow Learner in the Secondary School* (Secondary Curriculum Monograph: M-70). Schools throughout the country can get many helpful suggestions for application to their own situations from this monograph, which was prepared by a committee under the chairmanship of M. Jay Blaha, secondary curriculum co-ordinator, and was distributed from the office of C. C. Trillingham, superintendent of schools of Los Angeles County.

Two recent publications provide guidance for small and medium-sized schools in developing their libraries. In small schools per pupil expenditures may be higher than in large schools, but the total sum available for library support in small schools is likely to be inadequate. The librarian under such conditions is often at a loss as to how best to spend such money as is available. *A Book and Magazine List Suitable for Small High-School Libraries*, by Helen Wilson Carnie and Louis R. Kilzer (Bureau of Educational Research and Service Bulletin, University of Wyoming, Vol. III, No. 4) and *A Basic Book Collection for High Schools* (American Library Associa-

tion) should help librarians to assign their resources in the most economical and productive fashion.

For one dollar teachers can obtain a *Catalog of Free and Inexpensive Teaching Aids for High Schools*, compiled by Clement Holland, director of the Curriculum Laboratory of St. Louis University, and published by the Consumer Education Study of the National Association of Secondary-School Principals, Washington 6, D.C. The general scope of the list is indicated by its title, and its usefulness in schools is self-evident. In addition to the validity of the compilation which can be assumed from its sponsorship, the effort of Holland to select items relatively free of advertising matter adds to its value. He says:

In compiling this catalog, materials heavy in advertising content or stress were rejected. The items included either have no advertising, a minimum of advertising, or carry it in such a way that it is subordinated to the educational values.

High schools which prepare extended descriptions of their purposes, programs, and activities for students and parents would benefit by examining the small booklet published by the Minneapolis public schools, *The Senior High School in Minneapolis, 1950-52*. In attractive and plain-spoken style, the educational opportunities available to adolescents are explained. The brochure seems to have been written with the idea clearly in mind that high-school students should be able to read it and understand it.

The latest (No. 71) of the Supplementary Educational Monographs of the Department of Education, University of Chicago, presents a critical discussion of the importance of curriculum theory in the practical procedures involved in a systematic program of curriculum development. This phase of curriculum study has long been a source of confusion to theorists and practitioners concerned with determination of the desirable content of the instructional program in the schools. *Toward Improved Curriculum Theory* attempts to guide curriculum workers toward the attainment of perspective and balance in the organization of the sequence of learning experiences to be provided for children and youth within the school environment. To this end, the monograph submits the pronouncements of eleven curriculum experts with respect to the major principles of curriculum construction and their relations to recognized problems of curriculum theory and to authoritative opinion regarding the solutions to such problems.

The first three chapters deal (1) with the question of orienting curriculum theory to the task of identifying the significant factors that are involved in the development of an acceptable educational program and (2) with the problem of resolving the major issues that pertain to the nature and the function of the selected factors. The initial chapter supports the thesis that the basic orientation of the curriculum is to be found in a social

perspective derived from continuing analysis of the changing social order. Chapter ii is concerned with the problem of clarifying the issues related to a program of general education and with the implications of this program for further progress in the development of curriculum theory. Chapter iii rounds out the discussion of the orientation of curriculum theory by explaining what such orientation may mean for the determination of educational objectives.

Succeeding chapters deal with other important aspects of curriculum development in terms of the pertinent theoretical concepts. Consideration is given to the relation of the accepted principles to the determination of some understandable structure or design of curriculum making, to the organizing elements of the curriculum, and to the problem of selecting and organizing the learning experiences. The discussion is carried forward to consideration of problems of sequence and of curriculum planning. The final chapter suggests appropriate directives for future development of more adequate curriculum theory.

This volume is available on order to the University of Chicago Press at \$2.75 a copy.

SUMMER WORKSHOPS

THE Department of Education of the University of Chicago is conducting or assisting with several workshops during the summer of 1950.

The Workshop in Human Development and Education is being planned

this year for professional people in education—administrators, classroom teachers, supervisors, and counselors—and also for professional people in such related fields as social group work, parent education, and community recreation. Seminars are to be focused on problems involving (1) the development and guidance of children and adolescents; (2) processes and situations in group work; (3) cultural factors and social agencies (including the school) in the community and community action programs; and (4) the integration of knowledge in the area of human growth and development with curriculum and program planning.

The workshop will include opportunities for creative and informal social activity, individual consultation with workshop staff members, and use of the facilities of the University's libraries, of the Laboratory School, and of the centers for instructional materials. The workshop offers credit toward an advanced degree. Inclusive dates are June 26 through August 4. Applications for participation should include a summary of work experience and some indication of the applicant's area of interest.

A Workshop in Intergroup Education is planned for teachers, guidance workers, school psychologists, counselors, administrators, principals, supervisors, librarians, and community workers. Program areas include curriculum, school activities, evaluation, group leadership, the child and the community. In seminars, individual

conferences, and small work groups, participants will study problems that concern them. There will be special meetings, book forums, and film discussions. This workshop for about sixty persons will take place from June 26 through August 4.

The Workshop on Marriage and Family Research is designed to bring together experienced research leaders for an intensive period of research co-ordination and evaluation and to provide opportunity for professional growth of promising graduate students and university personnel. The workshop will be in session from August 14 through September 1.

Inquiries regarding any of these workshops should be addressed to the Workshop Secretary, Department of Education, University of Chicago.

A one-week workshop will be held August 7-12, 1950, under the sponsorship of the Illinois Association for Supervision and Curriculum Development. Similar workshops were held in 1948 and 1949. The major purpose of this workshop will be to plan continuation of the Child Growth and Development Study-Discussion projects sponsored by I.A.S.C.D. and the University of Chicago Field Services. Participation in the workshop is open to representatives from the five urban and rural communities actively engaged in the project. Any member of the Illinois Association for Supervision and Curriculum Development who wishes to participate may apply directly to Ethel Kawin, Judd Hall, University of Chicago.

CONFERENCE FOR ADMINISTRATIVE OFFICERS OF PUBLIC AND PRIVATE SCHOOLS

DURING the week of July 10-14, school administrators will be welcomed to the Eighteenth Annual Conference for Administrative Officers of Public and Private Schools, sponsored co-operatively by the School of Education of Northwestern University and the Department of Education of the University of Chicago. The program this year will be featured by discussions of "Leadership in Administration."

The Co-operative Conference will be held on the downtown McKinlock Campus of Northwestern University, at Chicago Avenue and Lake Shore Drive in Chicago. One floor of Abbott Hall on the McKinlock Campus will be open to provide rooms for out-of-town conference guests. Advance reservations for room accommodations will be necessary.

The conference is offered, without fee, to school administrators and other school personnel who wish to attend and to students registered at Northwestern University or the University of Chicago. Inquiries about rooms or the program may be directed to Professor Eugene S. Lawler, School of Education, Northwestern University, Evanston, Illinois.

RECENTLY PUBLISHED YEARBOOKS

THE Forty-ninth Yearbook of the National Society for the Study of Education includes two volumes. Part I, *Learning and Instruction*, explains

the implications of current concepts of learning for the improvement of instruction in elementary and secondary schools. The discussion emphasizes the significance of the recent shift in the theory and practice of teaching from the traditional reliance on techniques of presenting curriculum content to the growing recognition of the need for proper guidance of the learning experiences of school children toward the attainment of desirable goals. Illustrations of the application of accepted principles of learning are provided for various types of learning products, such as motor activities, concepts and generalizations, interests and attitudes, social adjustment, aesthetic responses, and problem-solving. In like manner, the nature of the learning process is explained in terms of the activities of learners at different grade levels.

Part II of the National Society's current yearbook is entitled *The Education of Exceptional Children*. Although prepared by specialists in fields of study pertaining to various types of atypical children, this volume offers valuable guidance to teachers in regularly organized classrooms, to school administrators, and even to the parents of such children, as well as to professional workers who are concerned with the specialized services provided by the schools for these children. The first section of the book includes chapters on the problems involved in identifying and diagnosing exceptional children of all types, organizing and administering an appro-

priate program for them, and providing effective guidance toward the realization of attainable educational goals. Later chapters deal with the peculiar needs of specified groups, such as the physically and the mentally handicapped, the gifted children, and those who are socially maladjusted. An appendix provides useful information regarding publications and welfare agencies dealing with problems of exceptional children.

These two volumes are available on order to the University of Chicago Press at \$3.50 for each volume in cloth binding, or \$2.75 in paper covers.

The Twenty-eighth Yearbook of the American Association of School Administrators, *Public Relations for America's Schools*, presents an authoritative exposition of the purposes, principles, and values of the public-relations program as an instrumentality for effective co-ordination of school and community enterprises carried on to promote the recognized aims of education for future citizens of a democratic society. Use of the plausible principles described would provide a foundation on which to build a program of interaction between school and community that would foster mutual respect and understanding regarding the problems and responsibilities of each. Specific suggestions of procedures to be employed in properly interpreting the school to the community are clearly described. The yearbook may be procured for \$4.00 through the office of the Association, Washington 6, D.C.

Fostering Mental Health in Our Schools is the 1950 yearbook of the Association of Supervision and Curriculum Development. It is a timely replacement of this Association's 1940 volume, *Mental Health in the Classroom*, which is now out of print. Part I of the new publication is a review of recent research findings in the field of human behavior, with emphasis on the development of the child as a sociological-psychological-biological being. In light of these findings, the yearbook committee contends that long-range development of the individual, rather than specific learnings at particular stages of growth, should be the major goal of the educational program. Part II is concerned with the child's motivations. The thesis is that we must develop a broad curriculum which will utilize the spontaneous interests of children, rather than having recourse to rewards and punishments. In Part III, the authors describe tested techniques of studying and helping pupils in the classroom and

suggest ways of dealing with children and youth in the school environment with a view to fostering mental health. The book is available at \$3.00 a copy, and orders may be addressed to the Association, Washington 6, D.C.

CONFERENCE ON GUIDANCE AND PERSONNEL

THE Fourteenth Annual Guidance and Personnel Conference will be held on Thursday and Friday, June 29-30, 1950, at the University of Chicago. The general theme will be "What Does the Field of Guidance and Personnel Have To Offer the Midcentury White House Conference on Children and Youth?"

All those interested in the general topic are invited to attend this conference, though it is primarily planned for specialists in the field of guidance and personnel work. Programs may be obtained by writing to Professor Robert C. Woellner, University of Chicago.

WARREN C. SEYFERT

WHO'S WHO FOR MAY

Authors of news notes and articles The news notes in this issue have been prepared by WARREN C. SEYFERT, associate professor of education and director of the Laboratory School of the University of Chicago. NED A. FLANDERS, assistant professor in the College of Education of the University of Minnesota, and HERBERT A. THELEN, associate professor of educational psychology and director of the Human Dynamics Laboratory at the University of Chicago, discuss the relative values and drawbacks of various types of sound recorders that can be used for educational purposes. SEBASTIAN V. MARTORANA, assistant professor of education at the State College of Washington, Pullman, Washington, reports the results of a nation-wide study of superintendents' opinions with regard to the grades that should be placed at the various levels of the school system. VIRGINIA ALWIN, chairman of the English Department in the Rochester Senior High School, Rochester, Minnesota, explains how a new program for the teaching of

expression was set up and carried out in her department. EARL FOREMAN, research assistant in the Unit on Evaluation at the University of Illinois, demonstrates techniques of increasing the reliability of a teacher-made test. JAMES E. CURTIS, assistant professor of education at Stanford University, considers various problems which arise in connection with the physical-education curriculum. A list of selected references on educational psychology is presented by MANDEL SHERMAN, professor of educational psychology, ERNEST A. HAGGARD, assistant professor of educational psychology and human development, both of the University of Chicago, and ELAINE A. NELSON, graduate student at the same institution.

Reviewers of books J. C. MOFFITT, superintendent of public schools, Provo, Utah. MARIAN R. BROWN, vocational counselor in the office of the dean of women, Cornell University. JOHN WITHALL, assistant professor of education at Brooklyn College.

SOUND-RECORDING PROCESSES AND EQUIPMENT FOR EDUCATIONAL PURPOSES

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INTRODUCTION

SOONER or later teachers, professors, or researchers become concerned with the possibilities of voice recording. To accomplish this they usually choose one recording machine, from over one hundred models currently available on the market, which is best suited to their purposes. The more diverse these purposes are, the less chance there is that one machine can do the job adequately. In an educational institution, it is probably true that no one machine can meet a recording load which includes the principal's dictation, speech-class practice recordings, music recording, capturing radio programs off the air for playback to the social-studies class, and permanent recordings, such as may be required for a faculty research project where a typescript is required for systematic analysis.

There are, however, definite relationships between certain recording purposes and generalized characteristics of certain types of recording apparatus. It is the purpose of this article to emphasize these relationships

in the hope that the reader can make a reasonable choice when it becomes necessary to purchase a machine.

The discussion which follows applies the criteria of (1) legibility of the recording, (2) ease of secretarial transcribing, (3) operation and maintenance, and (4) appropriate use to presently available recording machines.¹ In order to arrive at generalized characteristics of recording machines, a system of classification is used which is based on the recording process or manner in which the recording medium is distorted as the machine records. Obviously, there are distinctive characteristics of machines employing a mechanical process which can be usefully compared to machines employing a magnetic process.

One word of caution is in order. With reasonably good recording equipment, sound at the microphone determines the quality of the recording. Except when the lips are an inch or two from the microphone, the

¹ The names of manufacturers are not given in this article, but this information is readily available from catalogues, advertising brochures, local sound engineers, or from the authors.

acoustical conditions of the room in which the recording is made determine, to a large extent, whether desired voices or unwanted noise predominates at the microphone. Most public rooms are inadequate for group recordings. It is well to realize, therefore, that to insure good quality recordings it may be necessary to improve, temporarily or permanently (the latter at a total cost greatly in excess of the cost of the machine), the acoustical conditions before attempting to record.

EQUIPMENT UTILIZING MECHANICAL PROCESSES

The equipment utilizing mechanical processes is of three kinds: record cutters, plastic disk and plastic belt embossers, and film embossers.

In the mechanical process, the material is reduced by distorting its shape. A recording line is produced in the recording medium either by cutting out material, like gouging wood with a chisel, or by compressing or embossing the material, like pricking with an ice pick. In the more common mechanical processes, the recording stylus, as it cuts or embosses the recording material, is displaced sideways by a distance proportional to the vibrations of the sound wave to be recorded. In the reproduction, a playback needle follows the same groove and transforms the lateral displacements into electrical impulses, which can then be amplified to drive a speaker.

One characteristic of machines us-

ing the mechanical process is that the recording material can be used only once. The records are relatively permanent, unless damaged, and the cost of recording is proportional to the total recording time. This is in contrast to magnetic processes, where it is possible to use the same material over and over again. Except for record cutters, the cost per hour of the recording media is less for mechanical recorders than for magnetic tape or wire.

Record cutters.—A record cutter produces standard phonograph records on shellac or acetate disks, which vary in diameter from six to sixteen inches. The typical low-priced machine is portable, may or may not have a built-in radio, cuts up to a twelve-inch disk, usually has two turntable speeds (33½ and 78 revolutions per minute), and ranges in price from \$86.00 to \$150.00. More elaborate equipment can record on sixteen-inch disks and has various adjustments for speed, grooves per inch, tone compensation, and so forth. The prices of these machines start at \$350.00 and reach several thousand dollars in professional models. Low-priced record cutters are not recommended for continuous recording loads.

In general, the advantages of record cutters are the universal availability of playback equipment for homemade recordings and the fact that the recording machines can be used to play commercial records. Since the low-priced machines rarely can record continuously for longer than twelve min-

utes, these machines are suitable for short recordings where a permanent record is desired. The disadvantages of record cutters are that (1) the cost per hour for recording is high (from \$3.50 to \$9.50); (2) to produce good recordings, the machines must be given constant attention and must be operated by a person with considerable skill; (3) needles must be replaced frequently; and (4) the machines are not rugged and may be put out of adjustment by hard bumps.

The legibility of recordings made by these machines compares favorably with that of table-model radios. Secretarial transcribing under a constant recording load is not recommended because of the excessive cost in hours. Record cutters are not designed for such service. For best performance, operation and maintenance on portable models entail frequent adjustments, including needle pressure, removal of "recording chips" (the thin thread of material which is removed by the cutting needle), and the usual tone and volume adjustments. With respect to use, there is a tendency to allow the machines to be operated by one or two well-trained persons who have learned how to cope with the idiosyncrasies of the machines.

Plastic disk embossers and plastic belt embossers.—Plastic disk and belt embossers are designed primarily for dictation and secretarial transcribing. Plastic disks $1/100$ of an inch thick and $6\frac{1}{2}$ – $8\frac{1}{2}$ inches in diameter are used in disk machines, and plastic belts $3\frac{1}{2}$ inches in width and 12 inches in cir-

cumference are used in the belt machines. The recording grooves are spaced very close together, compared to standard records.

It is possible to record continuously for either fifteen minutes or thirty minutes on one side of an $8\frac{1}{2}$ -inch disk (depending on the machine purchased), and both sides of the disk can be used for recording. At present, most machines employing plastic belts record continuously for fifteen minutes, while one model can be permanently adjusted at the factory for either fifteen minutes or thirty minutes. Only one side of the belt can be used. These machines are particularly useful when they are connected in pairs in such a way that one machine automatically starts, with a 20–30 second overlap, when the other machine completes a belt or disk. This allows uninterrupted recording for indefinite periods of time. When these machines are combined with pre-amplifiers and microphone mixers and are used under reasonably good acoustical conditions, they can be used to record interviews or discussions of fairly large groups.

The range of pitches to which these machines are sensitive (the frequency response) is limited to the normal bass-treble range of the human voice. This fact eliminates the possibility of recording music. Their legibility is somewhat better than that of the telephone. Some models, when combined with pre-amplifiers, may occasionally have a fairly high background hum. This should be checked before pur-

chase by making a trial recording with all component parts connected.

The initial cost of these machines varies from \$300.00 to \$380.00 for a single unit; continuous recorders with two units vary from \$700.00 to \$900.00. Each manufacturer produces less expensive "secretary" models for playback only. The cost per hour for permanent records (cannot be used over again) varies from 12½ to 24 cents.

Machines of this type are very efficient for secretarial transcribing and, therefore, for research purposes. Foot control or levers at the typewriter space bar for starting and stopping and for backspacing, plus greater ease in finding a particular spot in the recording, result in increased efficiency. These machines have been simplified until little training is necessary to operate them. Maintenance contracts are available from the manufacturer, including regular inspections and emergency repairs. Records are easily stored in filing cabinets. Greater flexibility of recording conditions is possible with models which have automatic volume-control circuits. Most models are light, portable, and small. There is considerable variation in ruggedness among the four machines available in this classification, but all embossing machines are able to withstand the usual bumps and jars occurring when they are moved from one spot to another. The four available models should be inspected and, if possible, tried out on the job before a final choice is made.

Film embossers.—Film embossers are less well known to the public than any other type reviewed in this article. These machines are primarily designed for extremely long periods of continuous, or intermittent but automatic, voice recording without constant attention or the need to change the recording medium. Machines of this type are frequently used to monitor radio communications at airports or in police networks. In recording, a groove is embossed in a continuous loop of either 35- or 16-millimeter safety film. The recording stylus moves over the width of one groove during one revolution of the continuous loop; up to 100 grooves are embossed on 16-millimeter film.

Each of two manufacturers producing equipment of this type offers a variety of models, with marked differences between the basic designs. Among the important differences of the various machines are ease of loading the film, automatic audio control of the start-stop (that is, the machine automatically starts when there is something to record), automatic volume-control circuits, methods of logging the recording and finding your place for playback, and other features which tend to make the operation of the machine more or less automatic.

The legibility and frequency response of this equipment depend on the speed of the film as it passes the recording stylus. The machines designed for the longest continuous recording time have a somewhat reduced frequency response because of

the slower speed of the film. Machines which are designed to record for about two hours reproduce with a legibility similar to that of a table-model radio. More expensive machines reach the same level of performance with a continuous recording period of eight hours.

The cost of this type of equipment varies between \$450.00 and \$1,500.00, approximately. The cheapest machine is a secretarial model with foot control of the start-stop. The cost per hour of recording, on permanent records which are not used over again, varies between 50 and 75 cents. More storage space is required for film tape than is required for plastic disks or belts.

The operation of these machines is not particularly complicated, needles are permanent, and controls are kept to a minimum. Maintenance may be difficult since, to the knowledge of the writers, no service contracts are offered by the manufacturers. Some models are slightly noisy in operation and, therefore, cannot be placed too close to the recording microphone. These machines may be used for group recording or interview recording with some ease when models with less than three hours of continuous recording time are selected. They are portable, rugged, somewhat heavy (50 pounds) but compact.

MACHINES USING MAGNETIC PROCESS

Machines using the magnetic process are commonly known as wire recorders or tape recorders, but mag-

netic materials have also been applied to disks, resulting in what might be called a disk magnetic recorder.

In the process of magnetic recording, the distortion of the recording medium is achieved by magnetic force. Before recording, the magnetic units within the material have a random orientation. By passing through the fluctuating field of the recording head, the magnetic units of the recording medium are reorganized so as to create permanent magnetic fields which are proportional to the frequency and intensity of the sound at the microphone. To play back a recording of this kind, the process is merely reversed. The magnetic material, with permanent magnetic fields induced in the original recording, passes by the playback head. A current is produced in the coil of the playback head proportional to the original sound waves, which then can be amplified to drive a speaker. Magnetic recordings are permanent so long as they are kept away from magnetic fields.

The most significant feature of the magnetic process is the ease with which a recording can be removed from the tape, wire, or disk and another recording substituted in its place. Recordings are erased by demagnetizing the medium. Tape and wire machines accomplish this automatically when recording; that is, the tape or wire passes the erasing area just before entering the recording area. In many machines, the erasing and the recording coils are mounted as

one unit, and the same coil that is used for recording is also used for playback pick-up, resulting in so called "triple-purpose" heads.

The materials used are either (1) stainless steel wire or steel alloy plated on brass wire or (2) magnetic oxides coated on tape or disks. Regardless of the particular model involved, the following are characteristics of machines employing the magnetic process on wire or tape. First, recordings can be either permanent or temporary. Manufacturers assert that there is no appreciable deterioration of a recording after thousands of playbacks. Second, with the exception of two wire recorders (to be dealt with separately), tape and wire machines are not designed for secretarial transcribing; there are no provisions for instantaneous start-stop or for back-spacing. Third, the matter of finding a special section of a recording quickly and easily is complicated by the fact that reels of tape or spools of wire of considerable length are used. In most tape machines and in the most expensive wire machines, both forward and reverse fast skip speeds are available. While this facilitates finding one's place, the task still requires several minutes compared to a fraction of a minute for disk or belt embossers. This problem is more readily appreciated when one realizes that an hour of recording requires over 7,000 feet of wire—more than a mile—and for tape either 1,200 or 2,400 feet, depending on whether there are two sound tracks or just one on a $\frac{1}{4}$ -inch tape. Fourth,

wire and tape can break and become tangled at inopportune moments. Perhaps the apparent increasing popularity of tape over wire is partly due to the fact that a mess of tape can be rewound by hand without too much effort, whereas a mess of wire is usually removed with scissors—a method which results in considerable loss of wire. Also tape has greater tensile strength than wire and travels at a slower rate for the same quality of recording, which means that tape is less likely to break than wire.

Generally speaking, a wide choice of makes and models of magnetic recorders is now available. There are more manufacturers of tape and wire machines than there are different basic tape- or wire-moving mechanisms, and, consequently, machines sold under different trade names look, and actually are, very similar. This is true because basic units for moving tape and wire are manufactured by tool and die companies and are sold, in quantity lots, to anyone who has some tubes, resistors, condensers, and suitcases with which to assemble a recording machine. Among machines in the lowest price range (\$80.00-\$300.00), the most significant differences will be noted in the basic tape- or wire-moving mechanisms and in the relative quality of tape versus wire.

Wire recorders.—Wire recording is simple in principle, barring snarling accidents; it costs little if records are not to be kept permanently; and it is capable of very high fidelity in laboratory models. The mechanical prob-

lem, simply stated, is one of starting, stopping, and maintaining constancy of speed in a mechanical system of relatively high inertia bound together by a wire which parts at a pull of greater than $2\frac{1}{2}$ –3 pounds. Since wire is stiff and kinks readily, it must be kept under tension at all times. The relatively complex and sometimes ingenious braking systems which maintain this tension must be in proper adjustment. Further, the wire must be wound in such a way that it does not pile up unevenly, for under those conditions it ties itself into a multitude of knots. Add to this the problem of shuttling forward or backward at high speed to find the exact spot in more than a mile of wire, and the mechanical difficulties become really challenging.

For the reasons listed, it is essential for a person operating a wire recorder to understand clearly the correct procedures involved in the operation of the machine. A thorough knowledge of the mechanical mechanisms incorporated in the machine, combined with supervised instruction during the first trial runs, will generally result in adequate and reliable recording.

In discussing the types of wire recorders on the market, it is useful to divide them into three groups. In the first and largest group are all the low-priced wire recorders (\$80.00–\$300.00). In the second group are machines costing above \$300.00, for the most part falling in the \$400.00–\$800.00 range. In the third group are wire recorders designed for secretarial trans-

cribing, costing from \$325.00 to \$425.00.

The legibility of machines in the first group is similar to that of large table-model radios. They can reproduce music, as well as voice recordings. The legibility of machines in the second group is similar to that of large radio console sets.

The cost of a one-hour wire spool varies from \$2.50 to \$3.50 for Group 1 machines, somewhat higher for Group 2. Wire recordings may be kept indefinitely, or they may be erased and the wire used over again. After an initial investment for a sufficient amount of wire to keep at least one spool always available, the cost per hour for nonpermanent recording depends on wire spoilage through use. This, in turn, depends on the condition of the machine, the adjustment of the brakes, and so on. It is not uncommon to lose suddenly a considerable amount of wire after the machine has been used for 6–9 months of near-perfect operation. The machine then should be overhauled.

The operation of most machines in Group 1 is fairly simple, involving only a single lever for forward or reverse and another for playing back. In Group 2, the operation movements are only slightly more complicated, but the quality of the performance is greatly increased. These more expensive machines include better record-level indicators and fast forward skip speeds, while one machine uses wire spools which will record continuously for three hours. In general, the use of

wire recorders of Groups 1 and 2 is restricted to music or voice recording where no secretarial transcribing is required. All are considered portable. Machines in Group 1 are generally smaller than tape recorders, but machines in Group 2 are slightly larger than tape recorders. Wire spools take up less room than tape.

Wire recorders in Group 3 are primarily designed for secretarial transcribing. They combine increased legibility, including the recording of music, with mechanical conveniences for foot or finger control of start-stop and backspacing. Of the two machines in Group 3 known to the writers, the more expensive machine incorporates cartridge loading and improved scaling for logging the recording. It comes in three models, one for recording only, one for transcribing only, and a more expensive dual model which records and reproduces. The cost of a one-hour cartridge is around \$21.00, which makes the initial investment in wire rather high. Theoretically, a machine which combines high legibility, a one-hour continuous recording period, mechanical arrangements for economical transcribing, either permanent or temporary records, light weight and small size, comes close to being the perfect recording machine. However, both machines in Group 3 fall short of the ideal. Some of the drawbacks are: no fast forward skip speed, slow rewind speed, high cost for permanent recording, and lack of automatic volume-control circuits or microphone mixer circuits for group

recording, except at additional expense.

Tape recorders.—Recording on magnetic tape differs from wire recording primarily in the type of material used as the recording medium and the associated mechanism for moving the tape past the recording-playback head. The magnetic characteristics of the iron oxides, which are coated on either paper or plastic tape, are superior to steel wire so that equal resolving power at slower speeds is possible. Thus, the frequency response of wire at 2 feet per second is equaled by tape at $7\frac{1}{2}$ inches per second. The fundamental difference in the tape-driving mechanism is the use of a capstan drive. In a wire mechanism, the take-up spool or drum pulls the wire past the recording head. Thus, the speed of the wire is not constant because the effective diameter of the take-up drum changes (gets larger) as the wire builds up on the drum. In the tape mechanism the tape moves past the recording head by friction contact with a rubber-covered wheel (capstan) which revolves with constant velocity, the take-up reel being driven by a system which allows for slippage (that is, the take-up reel does not have constant velocity). Except in the more expensive machines, there is little to choose from when comparing a wire mechanism with a tape mechanism employing a capstan drive. The "wow" and "flutter" of a low-priced wire machine are about the same as those of a low-priced tape machine. In the higher price ranges, tape machines are gen-

erally considered superior; for example, most national radio networks now record with tape.

In 1948 the first "twin-track" tape machines appeared on the market. These machines record two sound tracks on a $\frac{1}{4}$ -inch tape, where originally only one track was used. This design, which is now available on the cheapest tape recorders, makes possible a full hour of recording on a 7-inch reel. This is accomplished by automatically reversing the tape after recording on the lower half of the full length of the tape; a second track is then recorded on the remaining half of the tape as it moves in the reverse direction. When an hour has elapsed, all the tape is back on the original reel, and it is possible to commence the playback at that point by a mere flick of the switch. This cuts in half the cost of tape per hour of recording. However, it has the disadvantage that, if one wishes to edit a recording and splice the tape, the recording on one sound track must be sacrificed.

Other improvements now found on better tape machines are simplified threading of the tape (a single slot in which the tape slips) and both forward and reverse fast skip speeds. Both of these features can be found on machines selling for less than \$100.00. A purchaser should be careful to check on the ratio of the fast speed to the recording speed. This should never be slower than four to one, and it would be preferable to have the ratio eight or ten to one. More expensive machines have a ratio of twenty to one.

It seems probable that, in all-round performance, ruggedness of design, and reliability of operation, tape machines may ultimately surpass wire machines in the lower price ranges, just as they have in the higher price ranges. Two basic reasons for this expectation, which some experts consider already apparent, are the slower speed of tape and the greater tensile strength of the tape (6-10 pounds) compared to that of wire ($2\frac{1}{2}$ -3 pounds). The one advantage of wire over tape is compactness. More than a mile of wire on a one-hour spool takes up less space than the 7-inch tape reel (1,200 feet) which represents a half-hour's recording on a single-track machine. Usually, though not always, wire recorders are smaller than tape machines.

Tape machines will be discussed in two groups. Group 1 includes machines in the low price range (\$89.00-\$300.00), and Group 2 includes machines in the higher price range (\$300.00-\$1,700.00). At the time of writing this article, the authors had no knowledge of tape machines designed specifically for secretarial transcribing.

The legibility of Group 1 tape recorders is similar to that of Group 1 wire recorders, except that listening tests tend to rate tape recorders slightly higher. This is partly due to better bass equalization common to most tape machines. The cost per hour of recording tape, compared to wire, is higher. The cost of a 1,200-foot reel of paper tape varies from \$2.80 to \$3.50,

depending on the quantities ordered, and plastic tape varies from \$4.40 to \$5.50. These figures represent the cost of tape per hour of recording for twin-track machines only; for single-track machines, these figures should be doubled. Plastic tape has greater tensile strength and a lower noise level than has paper tape.

The operation of tape machines involves the threading of the tape in a slot and connecting it to the take-up reel; then the movement of one or two levers starts the machine recording. Compared to wire machines, mistakes are less costly in terms of time and humor because tape does not tangle as much as wire. Further, it is easier to splice recording tape with adhesive tape than it is to tie a square knot with thin, stiff wire. No service contracts are offered by manufacturers, and maintenance usually requires finding a competent radio service-man.

The use of either tape or wire machines in Group 1 is usually limited to recording situations where one microphone is used. Thus, both tape and wire machines of Group 1 are usually unsatisfactory for large-group recording except under studio conditions with a microphone pre-amplifier mixer. Frequently, there is provision for recording from radios or turntables.

Tape machines in Group 2 are usually employed commercially. Two tape speeds are available in all models (7½ and 15 inches per second), resulting in good and extremely good fidelity. A recording at either speed, when amplified through high-fidelity equip-

ment, will produce either music or speech equal to, or better than, expensive console radios. Since all these machines employ single sound tracks, the cost per hour for tape at the 15-inch speed is close to \$20.00 for plastic tape. The operation and maintenance of these machines may be classified as excellent. They are well built and meet high standards of performance. In most models, forward and reverse skip speeds move the tape faster than 1,200 feet per minute. Most installations employing expensive tape recorders are permanent "sound-room" setups, but there are four or five makes which offer portable models. The use of these machines is somewhat limited because of the high initial investment and the high cost of recording. Group 2 tape machines are recommended for use in research where high fidelity is required or where the tape recordings can be retranscribed by recorders of the dictation type in order to permit efficient secretarial transcribing.

Magnetic disk machines.—To the knowledge of the writers, only one manufacturer makes a magnetic disk recorder. The magnetic oxide is coated on one side of a plastic disk about five inches in diameter. The recording head moves inward as the disk rotates, creating a sound track in the form of a spiral, like the groove of a commercial record. The disks are demagnetized manually with a bar magnet and can then be used again.

The two models available are designed primarily for dictation. Each

disk costs $7\frac{1}{2}$ cents, will record for three minutes, and can be folded or sent through the mail. The cost of the machine is between \$60.00 and \$100.00, depending on the model. The legibility of these machines is equivalent to a telephone, and they are recommended only as dictation machines.

IN CONCLUSION

Now that some of the sound equipment useful for various purposes has been considered, an evaluation and a word of advice may be acceptable. There is no question that sound recording is well worth considering and utilizing for many purposes involving routine collection of data, instruction in various skills, audience presentations, and routine processes involving oral communication. However, sound recording is a highly technical process which makes exacting demands on manufacturing skill and which requires some degree of insight on the part of the operator. All machines should be tested for ease and for use-

fulness "on the job" for which they are being considered. A great deal of trial and error is still involved in the designing of the electrical circuits and in hooking together simple units into complex, specialized, semipermanent setups.

These considerations, plus too many hours devoted to fixing things that should not have gone awry, lead the writers to recommend strongly that, for serious use, such as routine recording or research, one is well advised not to buy a recording machine plus isolated accessories but rather to buy a complete setup, installed in place, tested, and with rules of operation typed out and affixed to the wall. In addition, there should be a clear written agreement with manufacturer, distributor, or local electronic expert covering servicing and preferably including regular check-ups—not to blow dust out of the corners, but rather to make a test recording and to make such adjustments as are necessary from time to time to maintain the quality of operation at its initial level.

SUPERINTENDENTS VIEW PLANS OF GRADE ORGANIZATION

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THE spread of the junior-college, or community-college, movement since the turn of the century has forced public school administrators to direct attention to plans of grade organization which would include Grades XIII and XIV. However, these are not the only grades affected when the extension is actually executed. It has frequently been observed that the establishment of a local public junior college, or community college, affects not only high-school and junior high school programs but also the elementary school. This is proper, for our goal is the development of a sound, unified educational program.

Of the several plans of grade organization by which the public school system can be extended through the fourteenth year, the 6-4-4 plan has attracted most attention and has stimulated most discussion. Since 1928, when this plan was first introduced at Pasadena, California, more than a dozen other cities have established the plan, and several more are planning to do so. Within the past decade, a number of study groups of nation-wide importance have recognized and described the advantages of the 6-4-4 plan.¹

Evidence indicating the attitudes of city school superintendents toward various plans of grade organization of public school systems was gathered in one aspect of a broader study recently completed. The inquiry was nationwide in scope and was carried out by means of a questionnaire circulated to 1,000 school superintendents.² A questionnaire was sent to the superintendent of every other city of 5,000 or more persons listed in the Office of Education's *Educational Directory, 1946-47*: Part II, *County and City School Officers*. A total of 744 usable forms was returned. The responses were found to

¹ a) *The Structure and Administration of Education in American Democracy*, pp. 3-5. Washington: Educational Policies Commission of the National Education Association and the American Association of School Administrators, 1938.

b) *Organizing Higher Education*, p. 12. *Higher Education for American Democracy*, Vol. III. A Report of the President's Commission on Higher Education. Washington: Government Printing Office, 1947.

c) "A Tentative Report of the Subcommittee on Education for the 13th and 14th Years," p. 5. Report to the National Council of Chief State School Officers at Los Angeles, California, December 12, 1947. Washington: National Council of Chief State School Officers, 1947.

² S. V. Martorana, "Superintendents View Upward Extension of Public Schools," *School Review*, LVIII (January, 1950), 38-42.

be representatively distributed according to various sizes of cities and the geographic regions of the nation.

The questionnaire included inquiries concerning public support for the junior-college years; the plan of grade organization considered to be most desirable for general, nationwide adoption; the plan of organization preferred for the local situation;

was obtained from 1946-47 directories published by state departments of education and local school systems or, if not available from such sources, by direct communication with state departments of education.

A portrayal of plans of grade organization now in use in school systems in cities of various sizes is given in Table 1. From the data in this table

TABLE 1
PERCENTAGE DISTRIBUTION OF SCHOOL SYSTEMS IN CITIES OF VARIOUS SIZES
ACCORDING TO GRADE ORGANIZATION IN USE

ORGANIZATION NOW IN USE	PER CENT OF SYSTEMS IN CITIES WITH POPULATIONS OF—					ALL CITIES (744)
	5,000-9,999 (362)*	10,000-24,999 (219)	25,000-49,999 (85)	50,000-99,999 (44)	100,000 and Over (34)	
8-4.....	37.5	35.6	23.5	4.5	20.6	32.7
6-3-3.....	22.4	31.5	51.8	70.5	53.0	32.7
6-2-4.....	11.0	7.8	4.7	2.3	5.9	8.6
6-6.....	17.7	11.0	3.5	.....	2.9	12.4
8-4-2.....	0.8	1.8	1.2	6.8	2.9	1.6
6-3-3-2.....	1.4	2.7	10.6	6.8	14.7	3.8
7-5.....	1.4	3.2	.....	2.3	.....	1.7
7-4.....	2.8	2.3	1.2	.....	.....	2.1
Others.....	5.0	4.1	3.5	6.8	.....	4.4
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

* The numbers in parentheses show the number of cities represented.

and the obstacles to local adoption of the plan preferred. This article will report findings relative to plans of organization now in use; plans considered most desirable for general, nationwide adoption; and plans preferred for the local situation. Interpretation of the results is based on size of cities from which returns were received.

PLANS NOW IN USE

Information regarding plans of organization now in use over the nation

it is seen that the 8-4 and the 6-3-3 plans of grade organization were each used in about a third of the cities of 5,000 or more population in the country. The next most frequently used plan, the 6-6 scheme, was in use in about an eighth of the cities included in the study. None of the other plans shown was in use in as many as a tenth of the cities represented.

Among the cities with school systems which included Grades XIII and XIV, the 6-3-3-2 pattern of organization was most prevalent; approxi-

mately 4 per cent of the total number of cities included in the poll used this plan. This is slightly more than twice the number in which the 8-4-2 plan was in effect.

It is notable that the widest use of the 8-4 plan in comparison with the 6-3-3 plan was found in the cities of the smallest size. In cities with 5,000-9,999 persons, the per cent of cities using the 8-4 plan was about 15 points higher than the per cent of cities using the 6-3-3 pattern. This margin decreases in the next group of cities to slightly more than 4 percentage points. In cities of 25,000-49,999 persons, more than twice as many employed the 6-3-3 plan as did the 8-4 pattern—a reversal of the pattern for smaller cities. For cities of 50,000-99,999 persons, the percentage using the 6-3-3 plan is almost sixteen times that of cities using the 8-4 plan. In the group of very large cities, 100,000 and over, the margin is reduced, for here the 6-3-3 plan was used by about two and one-half times more cities than those utilizing the 8-4 scheme.

The relationship between size of cities and the existence of a junior college as part of the public school system can also be inferred from Table 1. If the per cent of cities using the 6-3-3-2 and the 8-4-2 schemes of organization are added, it is seen that, in the group of smallest cities, only 2.2 per cent maintained junior colleges. The proportion increases steadily to the largest cities, which maintained junior colleges in 17.6 per cent of the cases. The potentiality for widespread growth of

local junior colleges can be judged from the fact that only 5.4 per cent of all cities of 5,000 or more persons in the United States maintained junior, or community, colleges. Thus, it can be seen that, although in some of the cities the existence of a college or university makes establishment of a junior, or community, college impractical, there is apparently much to be done before institutions of this type become as prevalent as is suggested in the report of the President's Commission on Higher Education.³

PLANS PREFERRED FOR GENERAL USE

The plans preferred by superintendents who favored inclusion of Grades XIII and XIV in the public school system are presented in Table 2. For the nation as a whole, about two out of five of these school administrators favored adoption of the 6-4-4 plan. Approximately 30 per cent of the superintendents favored the 6-3-3-2 plan. The third ranking plan, the 8-4-2, was preferred by approximately an eighth of all the superintendents. Nearly a tenth favored the 6-6-2 pattern.

The high percentage in favor of the 6-4-4 plan is impressive in view of its radical departure from the traditional ideas of public school organization and the relatively short time it has been in existence. Within about twenty years of actual operation, the 6-4-4 plan has

³ *Establishing the Goals*, p. 67. *Higher Education for American Democracy*, Vol. I. A Report of the President's Commission on Higher Education. Washington: Government Printing Office, 1947.

received sufficient acclaim to impress it on the minds of city school superintendents to an extent where two out of every five now believe it is the most desirable plan for widespread use.

Of significance also is the fact that a regional analysis of the data shows that the 6-4-4 plan was more strongly favored by superintendents in those geographic regions where 6-4-4 systems are now in operation.

persons, the two plans were about equally preferred; however, in both cases there exists a slight margin in favor of the 6-4-4 plan. In the largest cities, the 6-3-3-2 plan was favored by a larger proportion of the superintendents.

Table 3 shows that approximately half the group of superintendents who did not favor public support of the junior-college years, indicated that

TABLE 2
PERCENTAGE DISTRIBUTION, ACCORDING TO GRADE ORGANIZATION PREFERRED FOR
GENERAL ADOPTION, OF SUPERINTENDENTS FAVORING INCLUSION OF
GRADES XIII AND XIV IN PUBLIC SCHOOL SYSTEM

ORGANIZATION PREFERRED	PER CENT OF SUPERINTENDENTS IN CITIES WITH POPULATIONS OF:					PER CENT OF SUPERINTEND- ENTS IN ALL CITIES (593)
	5,000-9,999 (274)*	10,000-24,999 (182)	25,000-49,999 (71)	50,000-99,999 (39)	100,000 and Over (27)	
6-4-4.....	39.1	40.1	38.0	43.6	33.3	39.3
8-4-2.....	17.2	10.4	5.6	7.7	7.4	12.6
6-6-2.....	12.4	9.3	7.1	7.7	.....	9.9
6-3-3-2.....	25.2	30.8	36.6	41.0	48.2	30.4
Others.....	3.6	4.4	7.1	.....	.....	3.9
No one plan.....	2.1	4.4	4.2	.....	11.1	3.4
No answer.....	0.4	0.6	1.4	.....	.....	0.5
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

* The numbers in parentheses show the number of cities represented.

In cities of 5,000-9,999 persons, the 6-4-4 plan was favored by approximately 40 per cent of the superintendents; about 14 percentage points more than favored the 6-3-3-2. The margin decreases to about 10 percentage points in the next group of cities, with approximately 40 per cent of the superintendents favoring the 6-4-4 plan and about 30 per cent preferring the 6-3-3-2. In cities of 25,000-49,999 persons and cities of 50,000-99,999

they preferred the 6-3-3 plan. Approximately a seventh supported the 8-4 plan; another seventh voted for the 6-6 scheme; and about an eighth considered the 6-2-4 plan most desirable.

In cities of 5,000-9,999 persons, the per cents of superintendents considering the 6-3-3, 6-2-4, and 8-4 plans most desirable for general adoption were, respectively, approximately 49, 13, and 12. In cities of 10,000-24,999

persons, the like per cents were approximately 52, 17, and 10. Approximately a fifth of the respondents from cities of 5,000-9,999 persons and a tenth of those from the next larger classification of cities preferred the 6-6 plan. Too few administrators are represented in the cities of the three largest groups shown in Table 3 to warrant special mention.

PLANS PREFERRED FOR LOCAL SITUATION

For each of the size classifications used in this nation-wide study, the per cent of city superintendents preferring each plan of grade organization for use in the local school system administered are summarized in Table 4. Again it is seen that the 6-4-4, the 6-3-3-2, and the 6-3-3 plans were the

TABLE 3

PERCENTAGE DISTRIBUTION, ACCORDING TO GRADE ORGANIZATION PREFERRED FOR GENERAL ADOPTION, OF SUPERINTENDENTS NOT FAVORING INCLUSION OF GRADES XIII AND XIV IN PUBLIC SCHOOL SYSTEM

ORGANIZATION PREFERRED	PER CENT OF SUPERINTENDENTS IN CITIES WITH POPULATIONS OF—					PER CENT OF SUPERINTENDENTS IN ALL CITIES (115)
	5,000-9,999 (68)*	10,000-24,999 (29)	25,000-49,999 (9)	50,000-99,999 (5)	100,000 and Over (4)	
8-4.....	11.8	10.3	22.2	40.0	50.0	14.8
6-2-4.....	13.2	17.3	.....	.....	.....	12.2
6-3-3.....	48.5	51.7	77.8	60.0	50.0	52.2
6-6.....	19.1	10.3	.....	.....	.....	13.8
Others.....	5.9	6.9	.....	.....	.....	5.2
No one plan.....	.....	3.5	.....	.....	.....	0.9
No answer.....	1.5	.....	.....	.....	.....	0.9
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

* The numbers in parentheses show the number of cities represented.

Were one to speculate as to motivation for the preferences summarized in Table 3, it might be suggested that superintendents of these school systems, particularly those in the smaller cities, feel that the junior high school movement is sound and desirable but also feel that not all localities can maintain the junior-college program at public expense. In some cases, the feeling may be that the junior-college idea has not yet been established to a point where it could be maintained under public auspices.

most favored. Of the 744 administrators responding to the inquiry, 30 per cent favored the 6-4-4 plan for their own systems, approximately 23 per cent supported the 6-3-3-2 pattern, and about 13 per cent preferred the 6-3-3 arrangement. None of the other plans was cited by as many as 10 per cent of the respondents.

A definite relationship between city size and the plan preferred by the school superintendent for local use is disclosed by the data in Table 4. The 6-4-4 plan holds a wide margin of

support over the 6-3-3-2 plan in the smallest cities, loses this margin of favor as the size of the cities increases until support for the 6-3-3-2 plan reaches an equal proportion of superintendents in cities of 50,000-99,999 persons, and relinquishes first position to the 6-3-3-2 plan in the largest size cities. This situation arises, no doubt, from the fact that in the smaller cities the offering at public expense of an

justify its use. Koos contends that, even in the largest cities, the fundamental educational and psychological advantages resulting from the 6-4-4 plan should be primary considerations.⁴

PREFERRED PLANS COMPARED TO PLANS IN USE

As shown in Table 5, in all groups of cities using the more common pat-

TABLE 4
PERCENTAGE DISTRIBUTION, ACCORDING TO PLANS OF GRADE ORGANIZATION PREFERRED FOR THE LOCAL SITUATION, OF SCHOOL SUPERINTENDENTS IN CITIES OF VARIOUS SIZES

ORGANIZATION PREFERRED	PER CENT OF SUPERINTENDENTS IN CITIES WITH POPULATIONS OF—					PER CENT OF SUPERINTENDENTS IN ALL CITIES (744)
	5,000-9,999 (362)*	10,000-24,999 (219)	25,000-49,999 (85)	50,000-99,999 (44)	100,000 and over (34)	
6-4-4.....	29.3	30.1	33.0	34.1	23.5	29.9
8-4-2.....	11.9	9.6	3.5	6.8	5.9	9.7
6-6-2.....	8.8	7.3	3.5	2.3	.....	7.0
6-3-3-2.....	15.8	25.1	32.9	34.1	41.2	22.7
6-3-3.....	14.4	11.4	11.8	13.6	17.7	13.3
6-2-4.....	3.0	3.2	1.2	.....	.....	2.6
8-4.....	2.8	1.4	7.1	4.5	8.8	3.2
6-6.....	4.1	2.7	.....	2.3	.....	3.0
Others.....	4.4	3.7	3.5	.....	.....	3.6
No answer.....	5.5	5.5	3.5	2.3	2.9	5.0
Total.....	100.0	100.0	100.0	100.0	100.0	100.0

* The numbers in parentheses show the number of cities represented.

education program through Grade XIV can be accomplished only through close association with the high school. On the other hand, in large city systems, where enrolments are large and facilities are more adequate, an arrangement which keeps the junior-college years distinct and apart from the lower secondary-school units is more practicable. Mere practicability of a plan, however, does not completely

terms of organization, the largest proportions of superintendents prefer the 6-4-4 plan for the local situation. However, in the case of administrators of 6-3-3 systems, the margin of support of the 6-4-4 plan over the 6-3-3-2 is negligible—a fact which may be attributed, at least in part, to

⁴ Leonard V. Koos, *Integrating High School and College: The Six-Four-Four Plan at Work*. New York: Harper & Bros., 1946.

the ease by which a two-year unit can be appended to the existing 6-3-3 scheme. Eighteen per cent of the superintendents of systems now using the 6-3-3 plan indicated that they would prefer to keep that organization.

Of the 243 superintendents now administering systems operating on the 8-4 basis, over a fourth would prefer the 6-4-4 scheme in the local situa-

the 6-4-4 plan, over twice the proportion that supported the 6-3-3-2 or 6-3-3 plans. One-eighth of the persons in this group indicated that they would prefer to have the 8-4-2 pattern of grade organization established in the local situation.

Though the number of superintendents of school systems maintaining junior colleges reached in this study

TABLE 5

PERCENTAGE DISTRIBUTION OF SCHOOL SUPERINTENDENTS IN CITIES USING CERTAIN PLANS OF ORGANIZATION ACCORDING TO PLAN PREFERRED FOR USE IN THE SYSTEM ADMINISTERED

PLAN PREFERRED	PER CENT OF SUPERINTENDENTS IN CITIES USING PLAN								PER CENT OF SUPERINTENDENTS IN ALL CITIES (744)
	8-4 (243)*	6-3-3 (243)	6-2-4 (64)	6-6 (92)	8-4-2 (12)	6-3-3-2 (28)	7-4 (16)	Others (46)	
6-4-4.....	27.6	33.8	34.4	22.8	41.7	32.1	12.5	32.6	30.0
8-4-2.....	16.5	3.7	12.5	5.4	41.7	.....	12.5	6.5	9.7
6-6.....	7.4	2.5	3.1	23.9	.....	.....	6.3	6.5	7.0
6-3-3-2.....	17.7	32.5	15.6	12.0	16.6	57.1	12.5	13.0	22.7
6-3-3.....	9.0	17.7	15.6	15.2	.....	3.6	25.0	10.9	13.3
6-2-4.....	2.8	0.8	7.8	2.2	.....	.....	6.2	4.4	2.6
8-4.....	6.2	2.9	.....	1.1	.....	.....	6.2	.....	3.2
6-6.....	3.7	1.6	1.6	6.5	.....	.....	6.3	2.2	3.0
Others.....	2.1	1.2	7.8	1.1	.....	7.2	12.5	19.5	3.6
No answer.....	7.0	3.3	1.6	9.8	.....	.....	.....	4.4	4.9
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

* The numbers in parentheses indicate the number of cities represented.

tion. Only a little more than one out of twenty indicated preference for the 8-4 plan which was in use. In this group, the second largest proportion of superintendents showed preference for the 6-3-3-2 plan. Following this plan very closely is the 8-4-2 scheme.

Clearest support for local adoption of the 6-4-4 plan appeared among the group of superintendents now heading 6-2-4 systems. Here more than a third of the administrators preferred

was relatively small, it is interesting to note the plans that these persons would prefer to have established in the local situation. Of the twelve persons who headed 8-4-2 systems, five would prefer to change to the 6-4-4 plan, and an equal number would continue under the 8-4-2 pattern. Two would rather establish the 6-3-3-2 type of grade arrangement. More important, in view of the fact that throughout this study the 6-3-3-2 pattern has

appeared as the nearest competitor to the 6-4-4 plan for general support, is the fact that practically a third of the superintendents now heading 6-3-3-2 systems would prefer a change to the 6-4-4 pattern. Almost three-fifths indicated that they were satisfied with the 6-3-3-2 plan already in use. A few would prefer to change to plans other than those that have been mentioned.

The proportion of nearly a third of the superintendents heading 6-3-3-2 systems and preferring the 6-4-4 plan takes on added significance when it is known that, in another part of the broader study of which these data are a part, it was found that only one of the eleven superintendents heading systems operating on the 6-4-4 plan preferred the 6-3-3-2 plan. One superintendent stated that no one plan was preferred. The remaining nine, or practically 82 per cent, supported the existing 6-4-4 plan.

It should be noted that almost a third of the forty-six superintendents in the group now heading systems operating under various other schemes of organization than those specifically named in Table 5 would prefer to establish the 6-4-4 plan in their city school systems. This is a proportion two and one-half times greater than that indicating a preference for the 6-3-3-2 plan.

CONCLUSIONS

From the data summarized in this article, several generalizations of interest to school administrators emerge. A majority of the cities in the nation

have now adopted the junior and senior high school plan of organization. The advantages that a junior-senior high school scheme of organization has for adapting the secondary program to the particular needs of early and advanced adolescent youth provide a cogent argument in favor of the 6-4-4 plan.

Of the several plans by which the public school system can be extended through Grade XIV, the 6-4-4 plan is supported by the largest proportion of superintendents included in this study, both for general adoption and for use in the local situation. The 6-3-3-2 plan is that supported by the next largest proportion of the total group of superintendents. Strongest support for the 6-4-4 plan was evidenced by superintendents in small cities, while strongest support for the 6-3-3-2 plan was provided by superintendents of cities of 100,000 and over in population.

A high degree of dissatisfaction with each of the common schemes of public school organization was expressed by persons in leadership positions in city school systems. Most of the superintendents would prefer to establish some other form of organization than that currently in use, and, with the exception of those administering 6-3-3 systems, who divided support almost equally between the 6-4-4 and the 6-3-3-2 schemes, the 6-4-4 plan is the plan most often preferred. These facts presage the probable direction of future changes in public school organization.

A NEW PROGRAM FOR TEACHING EXPRESSION IN LANGUAGE

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IN OUR way of life, anyone who does not express himself effectively is at a disadvantage. The school recognizes this fact when it makes the development of language abilities one of its most important jobs. The pupils of the Rochester High School took the Iowa Tests of Educational Development for the first time in the fall of 1942, and their scores indicated that we, their English teachers, were not doing that job successfully.

The students in Grade XII made an average standard score which gave them a percentile rank of only 48 in comparison with other schools in our enrolment group and 71 in comparison with all the 50,000 pupils in the 290 schools taking the tests that year. An unusually high proportion of our graduates—about 40 per cent—go on to college; this group would be definitely handicapped by lack of facility in expression. What was the matter with our teaching of correct and appropriate expression and what could we do about it?

Our principal suggested the following questions for self-examination:

Were we perhaps putting too little emphasis on this area of our English program?

Was our approach just what it should be to get the best results?

Had we examined carefully the test which our pupils took? What did it test that we were perhaps not teaching effectively?

Would we give the problem our consideration?

THE ENGLISH DEPARTMENT ANALYZES ITSELF

The members of the English department of our senior high school were capable and conscientious teachers. We had not been aware of this weakness to which the test results now drew our attention. If we had neglected some phase of our work, it had been unintentional, certainly, and we were concerned. But we did not go to work immediately to correct the situation. Most of us had had a great deal of experience in teaching English. We had done what we were doing, the way we were doing it, for some time. We resisted change, not actively or even openly; but resistance was there in our attitude. It takes time to change attitudes. Eventually, however, we did get around to analyzing our problem. Eventually, too, our attitude changed, with favorable results, as the following pages will show.

Now that we can look back at what happened, we can see just how our attitude and our viewpoint came to be changed. Probably the first real impetus came at the English teachers' conference held at the University of Minnesota that spring, which the principal made it possible for us all to attend. There we heard that our emphasis should be on "usage, not grammar; on ability to use a language, not knowledge about it." We heard also that "it is time teachers of English taught the American language since there is a lot of it being spoken around here."

The principal also called to our attention articles in professional magazines about teaching English¹ and monographs on the subject.² We discovered how helpful and stimulating the *English Journal* could be when we brought an interest to it. At English teachers' conferences we purchased copies of useful publications.³ We no-

¹ Such as: Dora V. Smith, "What Is Happening in English Teaching?" *Minnesota Journal of Education*, XXIV (February, 1944), 219-20.

² See, for example: a) Thomas Pollock, "English for These Times," *Teachers Service Bulletin in English* (Macmillan Co.), I (November, 1946).

b) Thomas Pollock, "The English Teacher and the English Language," *Teachers Service Bulletin in English* (Macmillan Co.), II (September, 1947).

³ Examples are: a) Paul Witty and Lou LaBrant, *Teaching the People's Language*. Service Center Pamphlet of the American Educational Fellowship. New York: Hinds, Hayden & Eldredge, Inc., 1945.

b) Robert C. Pooley, *Teaching English Usage*. National Council of Teachers of English Monograph No. 16. New York: D. Appleton-Century Co., Inc., 1946.

ticed discussions of English usage which were appearing in popular magazines.⁴ We examined carefully the test on correctness and appropriateness of expression which is one of the Iowa Tests of Educational Development, as well as recently devised college-aptitude tests. We asked the instructors of Freshman English at the Universities of Minnesota and Iowa what they expected of the students who came to them.

Then, over coffee and doughnuts, we began to talk about our problem. Gradually we came to two important realizations. The first was that we had probably spent more of our time, proportionately, on the teaching of literature than on the teaching of expression, since teaching literature is easier for most English teachers—certainly it is more pleasant—and it does not entail the tedious job of correcting hundreds of themes.

When we had examined up-to-date tests in correctness and appropriateness of language, we had observed that they did not test for formal rules and principles, nor for the terminology of language, but for the ability to use language correctly and appropriately. And we noted that the college instructors of Freshman English had not said, "We would like the students you send to us to know about language and about literature," but, "We would like them to be able to read and to speak and to write." We had probably

⁴ One such article is: N. Lewis, "How Correct Must English Be?" *Harper's Magazine*, CXCVIII (March, 1949), 68-74.

been wasting time and effort trying to teach our pupils the difference between participles and gerunds, for instance—time and effort which might better have been used to help them to overcome their habits of saying “he come” instead of “he came” and of writing incomplete sentences. Our second realization, then, was that we had been placing our emphasis on teaching about language, its rules and syntax, on the supposition, no doubt, that, if children know the rules of a language, they can use that language effectively.

What was the matter with us, then, was that we had been wasting time in teaching material that did not actually do what it purported to do and to a high-school population for which it was never intended. Thus, half our problem was solved.

WE DEVELOP A NEW PHILOSOPHY

The other half of the problem was: What could we do about it? The first step toward doing something about it was to build a new philosophy of teaching correct English—one that suited our times, as well as our pupils and their needs. The new philosophy would be based on current usage and not on grammar-textbook English, which no one actually used. It would be based on an awareness that there are levels of language and that what is correct is determined by what is appropriate. In other words, our philosophy would be realistic.

We would decide what to teach on

the basis of the answers to these questions:

What skills in the use of language do our pupils have now?

What skills should they have when they leave us?

What experiences must we give them to develop these skills?

We would try to give our pupils materials which really interested them, and then we would give them an opportunity to express themselves to the best of their individual abilities. Since one learns to speak by speaking, to write by writing, we would try to give them ample practice in both. Also, we would go about teaching correct English more directly than we had been, with emphasis on usage rather than on rules. We would not forget that there are rules, but we would teach only those rules and that terminology which we discovered our pupils actually needed; and we would teach these when they were needed, when the pupils were ready for them.

WE BUILD RESPECT FOR CORRECT EXPRESSION

We had come a long way when we had developed among the English teachers a new viewpoint about teaching expression. Next, we had the equally important job of creating in our pupils a favorable attitude toward correct and appropriate expression. Personally, this writer feels that any success she has had in this area of teaching lies primarily here—in her pupils' attitude. Pupils will learn what they intend to learn. They are much

more likely to learn to speak and to write well if they want to.

Every English teacher in the senior high school set about building in the pupils a respect for language. We explained and demonstrated the value of being able to speak and to write well. We tried to give them an appreciation of the fact that in a democracy it is important that every man learn to express himself well. We tried to show them how the possession of this ability would be of value to each of them in his social life and in his vocation.

Then we tried to get it across to them that they would not acquire facility in the use of language simply by wishing for it. Nor must they think that good expression is a form of information which the teachers could give them and which they could passively absorb. We told them that speaking and writing correctly and appropriately are skills and that skills can be developed only by a conscientious and consistent effort on the part of the learner. The entire project would have to be a co-operative one. We teachers could give them the opportunity to practice and learn, but it was up to them to do the practicing and the learning. In short, we made a big point of telling our pupils what we were doing and why.

It was not long before the results of our correct-usage campaign were evident. Our pupils were definitely conscious of "correctness." They demonstrated their interest by eagerly watching their own and each other's progress. Their ears were beginning to

be tuned up for correct usage. Our entire program of correct and appropriate expression gained prestige when several of our biggest and best football players took an interest in speaking and writing well. There is no attitude in our school that using good English is sissyish.

WE DESIGN A PROGRAM FOR TEACHING EXPRESSION

We English teachers felt that, if our program of teaching expression was to be really effective, every one of us must take part and that the program itself ought to be designed, not by one of us and imposed upon the rest, but by all of us working together. We agreed, too, that the program should be carefully designed and that it should make the following provisions.

The program for teaching expression should be articulated.

This is necessary since the acquiring of skill in expression is developmental. It should have direction and continuity. We agreed to get together on what we would teach and how we would teach it. We felt that it was necessary for every teacher to know just what experiences in learning to express themselves his pupils had had before they came to him and would have after they left him. We agreed, too, that the responsibility of teaching language should be shared by all of us alike. It would not be fair, for instance, for the twelfth-grade teachers to expect the tenth- and the eleventh-grade teachers to complete the job so

that the twelfth year could be spent on literature.

We all felt that this initial planning period, as well as the planning we have done together periodically since, was one of the best things to come out of this project; we teachers found that we could learn from one another. One would show us a method of teaching apostrophes which she had found particularly successful; another would tell us about a current custom of capitalization which she had discovered in some good magazines.

The program should provide for supervised instruction.

We had seen pupils standing out in the halls or sitting in the library, hastily filling in the exercise blanks in their workbooks while their friends dictated what they should write. We had wondered, too, about some of these themes which pupils wrote at home or in the study hall. We decided that most of this work should be done in the classroom under careful supervision.

The program should provide for individualized instruction.

The acquiring of skill in language is a highly individualized matter. In the writing of themes, John's trouble may be in spelling, Mary's in paragraphing, Dick's in organizing, Jane's in punctuation. In fact, it is likely that John will be very individual in the words that he misspells and that it is quotation marks that bother Jane. Each pupil must be given individual attention with his particular difficulties.

The program should maintain a balance between the actual writing of themes and systematic and well-planned drill in spelling, punctuation, capitalization, and correct usage.

We would give our pupils an opportunity to write often. The topics would be those which arose naturally from their reading, their interests, or their problems so that they would have something to say, would want to say it, and would care how they say it. Much of this writing would be done right in the classroom, where each pupil would have a dictionary handy on his desk and where the teacher could sit down with John and help him with his individual problems at the time he needed that help most.

We would teach the spelling, punctuation, usage, and sentence structure which our pupils actually used in the sort of things which they were writing. There is not much sense in having John learn to spell the four- and five-syllable words he seldom will use when it is the words "pleasant" and "receive" that he is misspelling in his themes, nor in teaching Jane what to do about quotations within quotations when she never uses any in her themes and, furthermore, has trouble with single quotation marks. We would teach these skills in direct connection with theme-writing, so that acquiring the skills would be meaningful for the pupils. They would see that they must learn to spell and to punctuate, not simply to spell and to punctuate correctly, but to do an effective job on their written work.

On the other hand, we realized that the skills of spelling, punctuation, capitalization, and usage are best acquired not merely incidentally but by systematic practice. We knew from experience that, if these skills are not practiced continuously, they are lost. However, practice must be meaningful, and it will not be meaningful if it is a matter of haphazard filling-in of blanks in workbooks. Such drill work should be done in class, under supervision, preferably in exercises or tests made especially for a particular class, with their interests and their problems in mind. There is danger, of course, of becoming so concerned with this drilling that both teacher and pupils forget just why they are doing it. It is important for the teacher to keep the pupils constantly aware of the connection between this work and the writing of themes. There is a danger, too, that drill will become monotonous. We discovered that, to make drill spirited, we must devise a variety of techniques.

The program should include a systematic testing program.

We have found it particularly successful to build our own tests with the interests and problems of our own pupils in mind. We devise these tests as a series, each of equal length and difficulty. Each usage test, for instance, will have forty-nine points. All the pupils will know them as the "forty-nine pointers." The test is used as a diagnostic test and as a medium of instruction. After the test has been taken, each pupil carefully examines

his paper to see where he was wrong; finds out what would have been right and why; and sets about learning those particular points in preparation for the next test. He often looks forward to the next test to see how much better he can do.

Then each fall all pupils are given the Iowa Tests of Educational Development. When the profile cards are returned to us, each pupil is able to see how much he has grown in correct and appropriate expression during the year and where he stands in relation to thousands of other pupils who have taken the same test.

The program should encourage pupils to watch their progress.

Our experience demonstrates that making it possible for pupils to watch their progress is a good incentive for learning. They are concerned about the weaknesses which their profile cards show up. We encourage them to keep a record of their progress on the "forty-nine pointer," for instance, or on the 105-point spelling test. They get a real thrill out of watching themselves rise from 34 to 39 to 43. They like competing with themselves and with each other. We hear them say, "I've improved 4 points!" "What did you get this time?" and, "Next time I'm going to make a 49." It is a fine thing, of course, to get pupils to want to improve their expression because of its value in their social lives, their vocations, and as citizens in a democracy, but somehow an immediate goal is an incentive that works.

We believe that the best way to

teach communication is to teach all its areas together, for, after all, that is the natural way in which they are used. One reads about a subject, listens, then writes and speaks. We give the development of oral expression as much attention as the written, since more people are judged by what they say than by what they write.

**WE EXAMINE THE RESULTS
OF OUR EFFORTS**

The immediate results of the change in our teaching of expression were not spectacular, that is, our twelfth-grade score did not jump from a percentile rank of 48 in 1942 to 99 in 1943, but it did rise to 65. Since that class had made a percentile rank of 38 as eleventh-graders the year before, they had made a progress of 27 points, which we felt was encouraging.

Probably, no change in curriculum is successfully adopted or even introduced overnight. It is developed slowly. It took us English teachers in the senior high school four years to become oriented to our new way of teaching expression. During the school year of 1946-47, we could sense that things were going smoothly in every English classroom. The scores made by Grades XI and XII in the fall of 1947 showed that this was true.

From Table 1 you will see that the rise in the scores made by both our Grades XI and XII over the period of six years was gradual but fairly steady and that they came out at the same percentile rank. This indicates that about the same amount of emphasis is

placed on this area of English at both levels, which is exactly as it should be.

Table 2 shows the growth in expression made by the classes of 1945, 1946, and 1947, for whom we have scores made in four successive years. The tests were taken at the beginning of their ninth, tenth, eleventh, and

TABLE 1

**PERCENTILE RANKS ON TEST OF EXPRES-
SION MADE BY GRADES XI AND XII
IN 1942-47**

Year of Test	Grade XI	Grade XII
1942.....	38	48
1943.....	73	65
1944.....	74	79
1945.....	79	89
1946.....	90	89
1947.....	99	99

TABLE 2

**PERCENTILE RANKS ON TEST OF EXPRES-
SION MADE BY SAME CLASSES IN
SUCCESSION YEARS**

Rank of Class in Grade	Class of 1945	Class of 1946	Class of 1947
IX.....	47	49	15
X.....	57	83	89
XI.....	74	79	90
XII.....	89	89	99

twelfth years in school and show their growth while they were in Grades IX, X, and XI.

Since this test is given at the beginning and not at the end of the school year, we have never been able to see objectively just how much our pupils grow in facility in expression during their twelfth year in school. However, in the college-aptitude test given in

the middle of the Senior year, the English scores now compare favorably with the scores in the other academic subjects. Also, the reports which have come to us about our graduates' work in college Freshman English have been gratifying. We believe that our pupils are growing as much during their twelfth year as during their tenth and eleventh, but, of course, we have no standard scores by which to prove it.

In 1942, and again in 1943, in spite of their gain of 27 points, the percentile rank of the standard score in expression made by our twelfth-graders was lower than the percentile rank of their composite score of Tests 1-8 of the Iowa Tests of Educational Development. (These eight tests measure social-studies background, natural-science background, correctness and appropriateness of expression, quantitative thinking, interpretation of social studies, interpretation of natural sciences, interpretation of literature, and general vocabulary.) By 1944,

however, the twelfth-grade score in expression ranked higher than the composite score. This continued to be true in 1945 and 1946. Then in 1947, when the percentile rank in expression was 99, the composite rank was close behind—96. The high score in expression contributed to the composite score, but there were seven other test scores contributing to it also. This indicates that things were probably happening in other areas of our high school's teaching as well as in English.

While we English teachers were doing research on how to teach expression and were examining ourselves in the light of our discoveries, we became aware that our program in reading and literature could also be improved to suit our pupils and our times, and we set to work on that project too. But that is another story. We mention it here simply to show how far reaching can be the effect of a discovery like the one we made back in 1942 about our weakness in teaching correct and appropriate expression.

IMPROVING THE RELIABILITY OF A TEACHER-MADE TEST

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ONE of the more difficult tasks of the classroom teacher is the construction of a test which will measure some aspect of learning in such a way that he may be reasonably confident the results yield an actual evaluation of the child's ability, skill, or knowledge within the specific area being measured. Often the teacher is handicapped by lack of specialized training in test construction and in the more technical practices of analysis of results.

Two of the most important questions to be answered concerning any test are: (1) "Does the instrument measure what it is intended to measure?" (2) "How consistently does it measure whatever it does measure?" The first question is one of validity; the second, of reliability. It is important to note that an instrument may be reliable without being valid. For example, a test designed to measure the child's ability to make practical application of mathematical principles may well give a highly reliable indication of his skill in addition, subtraction, multiplication, and division, while little evidence is revealed concerning the ability which was the ob-

ject of the proposed measurement. On the other hand, no test may be valid without a high degree of reliability, of consistency of measurement.

CONSTRUCTING THE TEST

The following report of the construction, administration, analysis, and revision of a test is offered in an effort to demonstrate some of the more simple devices which may be used to improve the reliability of a teacher-made test. The statistical operations mentioned are easily learned. They are no doubt familiar to many teachers, and explanation of the procedures may be found in any of the standard textbooks on statistics.

The writer desired to construct a test in the area of literature comprehension at the seventh-grade level. After careful consideration, certain objectives were selected for measurement. Table 1 shows these objectives and the number of times each objective was included among the test items.

The purpose was to measure the skills named as many times and through as wide a variety of devices as was possible in a reasonably timed

test. Literary selections were chosen from various sources, and, in certain cases, the writer composed selections to test specific abilities. The items were arranged roughly in progressive order from simple to difficult. Since the object was to measure depth of

TABLE 1
OBJECTIVES SELECTED TO BE MEASURED
IN A LITERATURE-COMPREHENSION
TEST

Objective	Number of Times Included
1. Understanding of the situation portrayed.....	6
2. Understanding of the underlying cause and result of the situation	3
3. Understanding of the author's intent.....	6
4. Understanding of the moral or lesson, if any	4
5. Understanding of the meaning of specific lines.....	4
6. Understanding of the meaning of specific words.....	16
7. Understanding of the meaning of words or phrases used differently in separate contexts	7
8. Critical determination of good and lesser literature	2
9. Ability to compare and analyze central thoughts	2
10. Ability to discover in selections accepted life values or criteria and to distinguish them from values not generally accepted	2

comprehension without regard to rate, no time limit was set for the test. As a "dry-run" trial, the test was administered individually to children at various levels and to adults, one of whom was an English instructor. Through this device, surface defects, such as ambiguities in language and structural

obscurities, were discovered and eliminated before the actual administration of the test.

The test in final form consisted of ten sections. Each part contained one literary selection followed by certain statements concerning the selection. By restricting the number of selections, the writer was able to measure, within samples of broader continuity, a factor which seemed of considerable importance in the evaluation of most of the skills listed.

For various statistical purposes, the first edition of the test was administered to both seventh- and eighth-grade pupils. A total population of ninety pupils took the test—forty-four in Grade VII and forty-six in Grade VIII. As was to be expected, this first administration revealed obvious faults. Among these, perhaps the most serious was a low reliability coefficient of .54, as calculated by the alternate-item, split-half method. A subsequent calculation of reliability by the Kuder-Richardson technique yielded a coefficient of .52. Application of the formula for the coefficient of alienation on the latter reliability index showed the scores were only 15 per cent better than chance ranking.

REVISING THE TEST

Revision of the directions.—The decision was made to revise the test in an effort to increase the reliability. One of the more commonly known devices, that of lengthening the test, was rejected as being impractical in this case and, furthermore, as being a statisti-

cal, rather than an evidential, technique. Instead, attention was directed toward adjustment and revision within the test as it was then constructed.

Upon careful consideration, the question arose regarding the pupil's ability to understand the directions given in the test and the difficulty he might experience in indicating his response choices on the test form. It was decided to revise the directions only and to determine what effect this would have on the reliability of the test.

One fault appeared to lie in the method by which the pupil was asked to indicate his answers. In the first edition each literary selection was followed by groups of statements about the selection. One statement in each group was true. The statements were lettered, and corresponding letters were printed at the right margin of the form. The pupil was directed to cross out the letter at the right which corresponded to the letter in front of the true statement. An example, taken from the test, is given below.

1. In this poem the author is:
 - a) Telling a story
 - b) Talking nonsense
 - c) Describing a scene
 - d) Pointing out a moral

a b c d

It seemed unsound psychologically to ask the pupil to cross out a correct-response indication. In addition, he was asked to transfer his attention from the statements to groups of letters placed elsewhere. It should be remembered that this test was constructed for seventh-grade children

who, for the greater part, were not "test-wise" in such matters as the use of separate answer sheets. The new directions simplified the answering procedure by asking the pupil to encircle the letter in front of the true statement in each group. This eliminated the attention-split and called for a positive response.

In the original administration of the test, no introduction was given either by the administrator or within the test form. The pupil was presented immediately with the first selection. In an effort to make clear exactly what the pupil was to do, the revised form included a preface, which presented explanatory samples similar to the material in the test. Directions, marking procedures, and format exactly duplicated the test content. Three groups of statements were presented with each sample selection. In the first group the correct response was indicated. In the second group the pupil was told which was the true statement and was directed to encircle the letter in front of it. In the third group the pupil was asked to determine the correct statement and to indicate it in the proper manner. During the administration of the test the pupils and the administrator read the preface together, and the administrator made sure the pupils understood the directions before proceeding with the test.

Other directions were modified in the attempt to clarify for the child what was to be done. In one section of the test, for example, two literary selections were used, instead of one. A

short paragraph was introduced in the revised form to indicate to the pupil the departure from the usual form. The mortality on one of the last sections of the test had been high in the first administration. While some of this difficulty was acceptable and was probably due to the complexities presented in the section, it was thought that confusion might be partially due to obscure directions. The directions were, therefore, reworded, and a longer example was included which closely approximated the material in the section. In the original edition the last section had required two answers. The directions were revised so that only one answer needed to be indicated. This revision was accomplished without diminishing in any way the measuring value of the item.

No changes were made in the actual test material. Literary selections, statements, wording of items, and arrangement of items were reprinted exactly as they had appeared in the previous edition. Although certain items obviously needed revision or deletion, the object on this particular administration was to determine the effect of the revision of directions on the reliability. The Kuder-Richardson technique was applied to the scores of the second administration, and the calculations yielded a reliability coefficient of .78. The coefficient of alienation indicated that the ranking was 38 per cent better than chance. Since no changes had been made other than in directions, the conclusion was reached that, for this population, the

revision of directions was probably responsible for the increased reliability.

Revision of the test items.—The second attempt to increase the reliability was made through revising the test items. Item analyses had been made on both administrations of the test. An examination revealed that several items should be altered or discarded completely. (The writer would like to point out that an item analysis is one of the more valuable tools of test appraisal, particularly of the discriminatory index of items.)

The difficulty of determining in advance what sorts of changes in items will bring about desired results is illustrated in the following example, in which the results of revision were not significantly successful. One of the first selections presented the story of the fox, the crow, and the piece of cheese. The third group of statements concerning the fable follows.

3. The moral in this story is:
 - a) Beware of foxes
 - b) Use any method you can to get food when you are hungry
 - c) Beware of flattery
 - d) Don't try to sing if you know you can't

The statement identified by the letter *c* is, of course, the correct response. In the first administration, however, 29 per cent of the pupils, and in the second administration 22 per cent of the pupils, had indicated statement *d* as their choice. It was possible either that the word "flattery" was unfamiliar to many children at the seventh-grade level or that statement

d too nearly approached a reasonable solution for the child. An effort to discriminate more closely was made by changing both statements. Statement *c*, in the new form read, "Beware of too much praise." Statement *d* read, "If you sing, you may lose your food." The results on this item in three administrations of the test are given in Table 2.

For this small population the revision of the item had no significant effect.

The revision of a second item was more successful. This selection was a poem in five stanzas. The fourth verse of each stanza indicated that the reader was to complete the thought of the stanza in any manner he chose. That is to say, the poet had written what was actually nonsense verse, concluding each stanza with such a remark as, "Anything you choose to say!" The first group of statements following the selection appears below.

- i. The poet who wrote this selection:
 - a) Is telling a story
 - b) Thinks that your ideas are better than his
 - c) Is getting you to imagine the story yourself

On the first administration 45 per cent of the pupils indicated the correct answer, *c*. However, 47 per cent indicated statement *a* as the correct response. On the second administration 30 per cent of the pupils indicated statement *a* as their choice. Examination of the selection revealed the fact that statement *a* might be considered correct, since the poem actually was a

little story although it was incomplete. Statement *a* was changed to read, "The poet . . . has no idea of how to write a poem." Results of the three administrations on this item are also shown in Table 2.

For this population, revision of the statement eliminated the persistent indication of what had been previously considered a false response. The over-

TABLE 2

PUPIL RESPONSES TO TWO STATEMENTS APPEARING IN THREE EDITIONS OF A LITERATURE-COMPREHENSION TEST

STATEMENT AND EDITION OF TEST	NUMBER OF PUPILS	PER CENT OF PUPILS INDICATING EACH CHOICE AS CORRECT			
		a)	b)	c)	d)
Statement 1:					
Edition I	44	9	9	53	29
Edition II	46	7	14	57	22
Edition III	54	12	12	54	22
Statement 2:					
Edition I	44	47	6	45	...
Edition II	46	30	4	60	...
Edition III	54	4	4	92	...

balance of correct responses on the last edition, although this selection is near the less difficult end of the scale, probably calls for some consideration of an increase in the over-all difficulty of the particular group of statements.

Various other item revisions were made. One group of statements concerning a selection in the middle range of difficulty showed a correct response of only 17 per cent on the first administration and 9 per cent on the second administration. The other two groups

of statements concerning the same selection yielded correct responses ranging from 55 per cent to 67 per cent in the two administrations. While it was expected and entirely acceptable that considerable variation would occur within the groups in any one section, such a wide differential was felt to be a violation of the consistency of the instrument. The entire group of statements under question was discarded, and a new set on a simpler level was devised. The third administration resulted in a correct response of 72 per cent.

One of the literary selections was an excerpt from an essay by Emerson. Certain words were incorrectly substituted, other words were misspelled, and various errors were introduced. The pupils were to indicate the errors. Results on the first two administrations were so poor that it appeared that this section of the test was too difficult for any of the seventh-grade pupils tested. The extreme difficulty was traced in part to the original article, which, it was decided, was probably too abstract, even in its correct form, for Grade VII. A simpler article was written which retained the same

number and types of errors. The results of the administration of this item were more satisfactory. While still difficult enough to discriminate, the scoring results were evened out, so as to approach more closely the curve of the entire test.

Statistical treatment of the results of the third edition of the test yielded a reliability coefficient by the Kuder-Richardson method of .82. A check by the product-moment correlation technique gave a coefficient of .81. While this figure is still not high, the various revisions had resulted in an increase of .29 in reliability. Further revision is indicated, and, of course, administration of the test to larger populations will yield more reliable data.

RÉSUMÉ

The object of this article has been to present a few of the devices and techniques which may be used to increase the consistency of a teacher-made test. Through analysis of test results and through careful revision, a test for ordinary classroom use, which is reasonably accurate in measurement, eventually may be produced.

EASY SOLUTIONS TO PHYSICAL- EDUCATION PROBLEMS

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A BROAD FIELD

THAT all teachers and administrators of physical education are constantly seeking to improve their programs can be assumed. The fact that no one is completely satisfied cannot be taken as criticism but merely as a recognition of possible shortcomings and a desire to keep abreast of new developments.

Physical education is a broad field, including athletics, intramurals, and the activities commonly referred to as the "required program." In addition, fields such as health education and recreation, if not included in the physical-education program, are closely related to it (4: 6, 11). For one person to be competent in all areas of this important aspect of education is becoming increasingly difficult, if not impossible. Teacher-education institutions have recognized this problem for some time and have attempted to define standards and to bring about an acceptable division of areas for educational-training purposes (12).

The physical-education teacher today is confronted with many extremely difficult problems, not the least of which is to determine the rela-

tive importance of each of the areas of physical education as they relate to his particular job. There are many enthusiastic torchbearers from each of the special areas to offer advice, and there are many who recommend policies or procedures designed to resolve the numerous conflicts faced by physical educators. Some of these suggestions have much to be said in their favor and are being readily accepted. Often, however, acceptance of one or more recommended plans does not mean a studied evaluation of the whole problem, but merely acceptance as a palliative measure to relieve the pressure being generated at some vulnerable point in the physical-education program. Thus, as a profession, there does not appear to be a united front (5). If physical educators seem inconsistent and confused, perhaps theirs is only a mild reaction compared to the reactions of educators in general or of the lay public.

"EASY SOLUTIONS"

The following list indicates the answer to the question: What are some of the "easy solutions" being recommended to physical educators?

1. Place students in homogeneous groups.
2. Offer a wide variety of activities and permit the students to engage in activities of their own choice.
3. Require the regular daily physical-education program of all students. Athletics and intramurals should be in addition to the required program.
4. Divide athletics from the physical-education program.
5. Recognize that physical fitness is the main objective of the program and build the program around this objective.
6. Adopt a standard program of physical education for all schools.

The list is not complete, but no doubt many persons will recognize these statements as typical of the solutions offered to the teacher on the job. Furthermore, it is obvious that each solution in itself can be conducive to certain desirable results. At the same time, each may leave much to be desired or even produce some results which may not be educationally defensible. What, then, are the limitations or undesirable features of each of the solutions mentioned above?

1. Place the students in homogeneous groups.

The question immediately raised is, "Homogeneous in respect to what?" Should it be in respect to physical ability? Age? Height? Weight? Strength? Grade in school? Intelligence? Or a combination of certain factors? Homogeneity in one factor does not necessarily mean likeness in others. Hence, it becomes difficult to select the equating factor or factors.

If the purpose of grouping is to

place students of equal ability in a given class, then, if the activities are changed, the classes will have to be reshuffled. An extreme example would be to change from an activity such as swimming to one like soccer.

A combination of factors, such as age, height, and weight, a strength-index score derived from a combination of selected measures of strength, or measures of skill and agility in selected activities, have all been used with varying degrees of success (1, 2: 114-23, 10: 160-68). Perhaps they have been of greatest value in grouping individuals for athletic games, particularly games involving body contact (15).

Homogeneous grouping may lead to outstanding performance or achievement in the superior classes. On the other hand, there is danger that it may lead to discouragement and even poorer achievement for individuals in the less able groups. Much that one learns is learned from associates, and to be placed out of one's age or grade for this one subject and into a class of equally unskilled individuals may be frustrating and not conducive to learning. Education in skills is not an isolated learning activity. Hence, homogeneous grouping may result in other outcomes of learning which may not be desirable.

2. Offer a wide variety of activities and permit the students to engage in activities of their own choice.

If such a plan is adopted, the question of the importance of the teacher,

as well as the purpose of physical education, arises. Is it the teacher's duty to teach, or simply to provide students with opportunities for participation? Is physical education presented in order to learn how to perform physical activities or to engage in exercise? Truly, most physical educators do not subscribe to an "either-or" answer to these questions. Instead, they are seeking to utilize modern principles of learning, and they adopt those methods or combinations of methods that give the most promise in realizing objectives to which all educators subscribe (7: 61-89).

An elective system assumes that students will exercise good judgment in selecting activities. An added difficulty arises from the fact that, if a period of learning and practice in an activity is necessary before enjoyment or satisfaction results, such activities may not be elected. Without direction from the instructor, some students might never engage in swimming, body-contact sports, or team games of recognized value and instead might elect an activity of limited value, concentrating on it at the expense of a well-rounded experience in a wide variety of activities (3). It is probable that a voluntary program will be popular at first but will later become monotonous. Students will question the value of the program unless there is instruction; and instruction, unless it is sugar-coated, may drive them into another activity.

Some schools overcome the difficulties mentioned above by providing a

program of restricted electives, in which the students elect an activity for a prescribed portion of the term. Others have used proficiency examinations and guidance to encourage students to elect activities which will be most beneficial for them (6). Still another plan is to designate certain combinations of activities for students to elect over a period of a year. These plans prevent a student from limiting his activity to a single specialty and, at the same time, provide for some freedom of choice on the part of each student.

Progression in the activities from year to year is made more difficult under an elective program, and small schools having a single physical-education teacher during a given class period find it difficult to offer a variety of activities during a period without neglecting both the teaching and the supervisory duties of the instructor. Moreover, the problems of class size and teacher load possibly become more acute under an elective system (8).

3. *Require the regular daily physical-education program of all students. Athletics and intramurals should be in addition to the required program.*

Athletics and intramurals should be administered so that they will not disrupt the regular, normal functioning of the physical-education classes. When such administration fails, however, to meet the needs and best educational interests of the students, then one is led to question the purpose of administration in the program.

It is true, no doubt, that athletics do not meet all the objectives of a well-planned physical-education class. Yet if the student is to engage in the regular class and then, later in the day, participate in a strenuous athletic program, it is questionable whether or not his best interests are being served. Maybe he could have used the physical-education period more profitably in some nonathletic extra-curriculum activity, such as music, art, journalism, or dramatics. Nonathletes can engage in some of these activities after school if they elect to do so.

To provide worth-while nonathletic activities for athletes during the regular physical-education class period frequently becomes a difficult administrative problem, which is sometimes met by adopting the "easy solution" of requiring all athletes to participate daily in the regular physical-education class.

Intramural athletics are generally regarded as very worth-while activities, but, in many schools, this program is weak. The reason for its weakness often is that it presents a difficult administrative problem. After school, the program conflicts in time, space, and equipment with athletics. During the school day, it conflicts with the regular physical-education classes. Thus, here again, the "easy solution" facilitates a smooth functioning program for the teachers and administrators but does not necessarily consider the best interests of the individual students.

4. Divorce athletics from the physical-education program.

Separating athletics from the physical-education program has meant that, in many schools, the athletic coach teaches subjects other than physical education during the school day and then coaches after school. If this plan were widespread, it is likely that coaches would no longer pursue training in physical education in preparation for coaching. The criticism that coaches are selected solely because they have been outstanding players themselves might thus be even more true than it is today.

The efficient functioning of the athletic, intramural, physical-education, health-education, and recreation programs in a school calls for a high degree of understanding and co-operation on the part of all teachers concerned. If a common background and education in the basic concepts of physical education and of each of its related areas were lacking, friction would probably arise among the staff. A popular activity such as athletics would no doubt be overemphasized at the expense of other activities. Thus, it is believed that the students in the program might be the losers if athletics were to be divorced from physical education.

5. Recognize that physical fitness is the main objective of the program and build the program around this objective.

Rogers has championed the idea of building the physical-education pro-

gram around the known physical fitness of the individuals (13, 14). He has presented a fairly objective scheme for measuring physical fitness and has demonstrated its effective use in many systems.

The criticism of such a plan has been its educational limitations. Physical fitness can be improved and maintained at a high level by a program of calisthenics and obstacle-course-running. This was demonstrated repeatedly during World War II, when the emphasis in many physical-education programs was focused on this objective. It was recognized that educational programs of physical education may have been effective in improving the skills, knowledge, habits, appreciations, and attitudes of individuals but that usually they did not improve measures of physical fitness as quickly, as efficiently, or to such a high degree.

Most persons will agree that more attention should be directed toward the prevention and removal of health handicaps. In fact, the entire school program, and every teacher, should contribute to this end. The leadership of health educators is vital. Confusion sometimes exists, however, between health education and physical fitness. The goal of physical fitness at the expense of education in physical skills, knowledge of physical activities, appreciations, interests, and attitudes toward physical development is not generally subscribed to by physical educators.

6. *Adopt a standard program of physical education for all schools.*

Education in the United States is distinctive from most foreign systems of education in that it is not nationalized or standardized. Matters of education are left to the judgment and actions of the individual states. Some states have adopted state courses of study, while other states have seen fit to delegate this responsibility to counties or to local communities.

The closest approach physical-education leaders have made to a national program was formulated by the Committee on Curriculum Research of the College Physical Education Association (9). The work of this committee has proved to be of great value as a guide to physical educators who are seeking to improve their present programs. The plan has not limited the development of physical education to a set pattern or forced any school system to adopt a program which might not be suited to its particular needs as interpreted by the local authorities. Just as we have preferred to have our educational system in the United States free from possible domination by narrow or undemocratic political interests, so we have avoided a system which would make this possible in physical education. A standard program of physical education would mean strength and support in a given program, but it might become static or possibly be used as a dangerous weapon in the hands of a political machine.

SUGGESTED APPROACH

If a problem can be solved by the simple expediency of applying a ready-made solution, it might be questionable whether or not a real problem existed in the first place. Furthermore, if one becomes overimpressed with the difficulties anticipated in the solution of a problem to such an extent that no solution is attempted, possibly too little attention has been focused on the desirable outcomes which might result.

It is the writer's belief that physical education is faced with many complex problems which do not lend themselves to "easy solutions." These problems are school-wide and hence transcend the interests and competence of teachers whose specialty is primarily physical education.

Physical educators are often closer to the students and the public than

are other teachers. Hence, they are in strategic positions to offer leadership which is broad in scope and not narrowly limited to physical education. The growth of physical education as an integral part of our schools during the last thirty years has been phenomenal. No longer can the problems of this segment of education be clearly separated from education as a whole. Instead of problems of physical education, they can well be viewed as problems of education. Such an approach would place all educational matters in proper perspective and would focus the attention of all teachers on what is best for the student. With the co-operation and assistance of all teachers in a school, the procedures decided upon will be more wisely chosen, more easily implemented, and more likely to succeed.

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14. ROGERS, FREDERICK R. "Amazing Failure of Physical Education," *American School Board Journal*, CIX (December, 1944), 17-19.

15. WILLGOOSE, CARL E. "Use of Strength Tests in Team Equalization," *Physical Educator*, VI (March, 1949), 4-5, 16.

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THE following bibliography covers the period from January, 1949, to December, 1949, inclusive, with the addition of a few references which appeared early in 1950.

GENERAL AND THEORETICAL DISCUSSIONS¹

394. BEAUMONT, HENRY, and MACOMBER, FREEMAN GLENN. *Psychological Factors in Education*. New York: McGraw-Hill Book Co., Inc., 1949. Pp. x+318.

A comprehensive treatment of the nature of learning and the implications of psychological principles for classroom procedures.

395. CRONBACH, LEE J. *Essentials of Psychological Testing*. New York: Harper & Bros., 1949. Pp. xiv+476.

After considering such basic concepts as the interpretation, choice, and administration of tests, the writer discusses such tests as the Binet scale and its revisions; the Wechsler test; tests of special abilities; prognostic tests; measures of achievement; self-report techniques for personality, interests, and attitudes; and projective techniques. Chapters on factor analysis, the use of tests in counseling, and observation of behavior in normal and test situations are included.

396. GOODENOUGH, FLORENCE L. *Mental Testing*. New York: Rinehart & Co., Inc., 1949. Pp. xx+610.

Presents history, principles, and applications of mental testing. Broad in its coverage, the book includes a discussion of tests for intelligence, educational aptitude and

¹ See also Item 144 (Shimberg) in the list of selected references appearing in the February, 1950, number of the *School Review*.

achievement, special talents and deficiencies, motor development and motor skill, interests and attitudes, personal-social characteristics, projective study of personality, and vocational guidance.

397. GUTHRIE, EDWIN R., and POWERS, FRANCIS F. *Educational Psychology*. New York: Ronald Press Co., 1950. Pp. vi+530.

A comprehensive discussion of the fundamental topics in educational psychology, with emphasis on the processes of classroom learning and teaching.

INTELLIGENCE²

398. AXLINE, VIRGINIA M. "Mental Deficiency—Symptom or Disease?" *Journal of Consulting Psychology*, XIII (October, 1949), 313-27.

Presents pilot study showing an increase in intelligence quotient, as tested, of one group of five children, originally classified as feeble-minded, who tested within normal limits after from eight to twenty contacts for play therapy. Two other groups, one originally in the normal range and the other in the feeble-minded, showed constant intelligence quotients under similar treatment. The explanation of the change for the first group is: "The child was freed from emotional restraint and could thus express his capacities more adequately."

399. BLAKE, ROBERT R. "The Relation between Childhood Environment and the Scholastic Aptitude and Intelligence of Adults," *Journal of Social Psychology*, XXIX (February, 1949), 37-41.

² See also Item 108 (Skodak and Skeels) in the list of selected references appearing in the February, 1950, number of the *Elementary School Journal*.

Reports research to determine relations between childhood socioeconomic environment and adult intellectual achievement for seventy-four subjects. Persons whose parents had college degrees and were engaged in professional or business pursuits made higher scores on academic-aptitude tests as adults.

400. DAVIS, ALLISON, and HESS, ROBERT D. "What about I.Q.s?" *NEA Journal*, XXXVIII (November, 1949), 604-5. Discusses new intelligence tests developed by the writers which, they feel, eliminate the socioeconomic bias of preceding tests. The results on these tests produce equal distributions of intelligence for all socioeconomic classes.

401. HAUSER, LUELLAN J. MUNN. "A Comparative Study of the Intelligence of University Freshmen Enrolled in Business and Liberal Arts Schools," *Journal of Educational Research*, XLIII (September, 1949), 49-57. Reports an investigation to determine (1) the difference in the mental ability of students choosing to enter the business school and those entering the liberal arts college and (2) the implications of the difference for practical admissions, guidance, and instructional policies of a university. The writer concludes that the difference in intelligence is too small to be of value "for admission policies, methods of instruction, guidance or counseling at the college level."

402. HENDERSON, RICHARD L. "Education and Intelligence," *Educational Administration and Supervision*, XXXV (May, 1949), 270-78. After discussing several crucial issues in defining intelligence, the writer strongly urges that "the duty of the school . . . is to provide an environment rich in meaningful experience so that every force for intellectual improvement is brought to bear on the young and growing child." Practical means of applying this recommendation are suggested. Crucial issues, such as heredity and environmental influence, the place of learned achievement, miscellaneous learning, insight, and sex differences, are also emphasized.

403. SHAW, DUANE C. "A Study of the Relationships between Thurstone Primary Mental Abilities and High School Achievement," *Journal of Educational Psychology*, XL (April, 1949), 239-49. Reports research in which the Thurstone Primary Mental Abilities Tests and five achievement tests were given to 591 entering ninth-grade students of two school systems in Iowa. Ability in detecting verbal-meaning and reasoning ability contributed significantly to achievement. Combinations of selected primary mental abilities were highly related to the achievement scores.

LEARNING³

404. ALTUS, WILLIAM D. "Relationship of Intelligence and Years of Schooling When Literacy Is Held Constant," *Journal of Consulting Psychology*, XIII (October, 1949), 375-76. Reports correlations (none at the 5 per cent level of significance) between intelligence quotient, years of schooling, and performance on the Gray Oral Reading Paragraphs, the latter being held constant. A slight tendency is noted for "brighter" individuals to have remained in school longer.

405. BERNARD, JACK. "Notes on the Postman-Stone Controversy," *Psychological Bulletin*, XLVI (January, 1949), 51-53. Writing with reference to the Postman-Stone controversy on Thorndike's law of effect, the author suggests that it is impossible to generalize regarding "the law" of "the effect" of reward and punishment since the effect of reward or punishment in a learning situation depends on the specific nature of the reward or punishment, the specific learning situation, and the specific individual being rewarded or punished.

406. DEXTER, LEWIS. "On Teaching the Systematic Transfer of Training: An Attempt To Identify Procedures for the Investigation of Skills Common to the

³ See also Item 547 (Brownell and Moser) and Item 559 (Swenson) in the list of selected references appearing in the November, 1949, number of the *Elementary School Journal* and Item 671 (Ryans) in the December, 1949, number of the same journal.

Social and Physical Sciences," *Harvard Educational Review*, XIX (Summer, 1949), 127-41.

Contends that "selection of the content of curriculum in terms of method rather than in terms of fact or tradition is most likely to help the student in orienting himself to a world of change." Included among the special skills considered desirable are systematic questioning of evidence, ability in statistical analysis and inference, "explanation," and definition. Practical problems involved in such a program are considered, as well as research needed to clarify the issues.

407. HARLOW, HARRY F. "The Formation of Learning Sets," *Psychological Review*, LVI (January, 1949), 51-65.

Reports research indicating that "learning to learn," this "transfer from problem to problem which we call the formation of a learning set, is a highly predictable, orderly process which can be demonstrated as long as controls are maintained over the subject's experience and the difficulty of the problem." Training gave experimental animals an increased capacity to adapt to the changing demands of a psychology laboratory environment. Similar findings appear in human subjects.

408. JENKINS, WILLIAM O., and POSTMAN, LEO. "An Experimental Analysis of Set in Rote Learning: Retroactive Inhibition as a Function of Changing Set," *Journal of Experimental Psychology*, XXXIX (February, 1949), 69-72.

Reports an experiment to test the hypothesis that amount of retroactive inhibition is reduced if original learning and interpolated learning take place under different sets. The writers conclude that a greater amount of retroactive inhibition occurred when both activities were carried out under the same set than when the original learning and interpolated learning occurred under different sets. "Like dissimilarity of materials, dissimilarity of sets contributes to the functional isolation of tasks learned in succession."

409. *Learning and Instruction*. Prepared by the Society's Committee, G. LESTER ANDERSON, Chairman. Forty-ninth Yearbook of the National Society for the Study of Education, Part I. Chicago: Distributed by the University of Chicago Press, 1950. Pp. xii+358.

An authoritative discussion of basic factors underlying human learning, with applications of accepted principles of learning to the problems of instruction in different subjects and school grades.

410. MURSELL, JAMES L. *Developmental Teaching*. New York: McGraw-Hill Book Co., Inc., 1949. Pp. x+374.

An effective presentation of the viewpoint that the content of formal instruction must be organized in terms of mental growth.

411. SHEFFIELD, FRED D. "Hilgard's Critique of Guthrie," *Psychological Review*, XLVI (September, 1949), 284-91.

Feeling that it would be unfortunate if beginning students were discouraged from further examination of Guthrie's theories as a result of Hilgard's strong negative criticism, the writer comments on the seriousness or validity of six of the points raised by Hilgard.

412. SHERRIFFS, A. C. "Modification of Academic Performance through Personal Interview," *Journal of Applied Psychology*, XXXIII (August, 1949), 339-46.

Reports a study of the effect of a one-hour interview on the test performance of selected members of a large class. In the interview the instructor procured life-history data and attitudinal material but did not discuss course content. Personality variables were grouped in seven areas of tension and need. Those students rating higher on tensions and needs (except achievement) showed significant academic improvement after the interview.

413. SHOBEN, EDWARD JOSEPH, JR. "Psychotherapy as a Problem in Learning Theory," *Psychological Bulletin*, XLVI (September, 1949), 366-92.

Proposes that psychotherapy occurs through three interrelated processes: (1) "the lifting of repression and development of insight through the symbolic reinstating of the stimuli for anxiety"; (2) "the diminution of anxiety by counter-conditioning through the attachment of the stimuli for anxiety to the comfort reaction made to the therapeutic relation"; and (3) "the process of re-education through the therapist's helping the patient to formulate rational goals and behavioral methods for attaining them."

414. UNDERWOOD, BENTON J. "Proactive Inhibition as a Function of Time and Degree of Prior Learning," *Journal of Experimental Psychology*, XXXIX (February, 1949), 24-34.
Reports two investigations of proactive inhibition focusing on two variables—the degree of prior learning and the time between learning the second task and its recall.

415. WITHALL, JOHN. "The Development of a Technique for the Measurement of Social-emotional Climate in Classrooms," *Journal of Experimental Education*, XVII (March, 1949), 347-61.
Discusses research in which a procedure for assessing and describing classroom climate was evolved through a categorization of the teachers' statements. Pupils' positive and negative reactions to teacher statements can be judged reliably by trained individuals using typescript statements. Suggestions for revising the climate index and for additional research are presented.

INDIVIDUAL DIFFERENCES

416. EDMISTON, R. W., and BENFER, J. G. "Relationship between Group Achievement and Range of Abilities within the Groups," *Journal of Educational Research*, XLII (March, 1949), 547-48.
Reports briefly a study of the effect on learning achievement in reading of homogeneous grouping as compared with heterogeneous grouping. More than four hundred students in the two types of groupings were tested, with teacher, average intelligence, and class size held constant. A critical ratio of 4.33 favoring the heterogeneous grouping was found.

417. GARDNER, ERIC FREEMAN. "The Determination of Units of Measurement Which Are Consistent with Inter and Intra Grade Differences in Ability," *Harvard Educational Review*, XIX (Spring, 1949), 123-24.
Deals with the problem of distribution of traits by measuring a large number of subjects in Grades II-IX. The hypothesis of normality of distribution was not found tenable for every grade distribution in each trait, but grade distributions with slight skewing were found in sufficient numbers to make the assumptions of normality not unreasonable. K-scores are highly recommended to measure pupil growth and individual, trait, and group differences.

418. SYLVESTER, H. D., and NILES, O. S. "Forgotten: Your Child's Individuality," *Educational Administration and Supervision*, XXXV (May, 1949), 311-15.
Pointing out that little homogeneity in academic achievement exists at the high-school level, the writers strongly urge a general revamping of the curriculum in order to place emphasis on the student rather than on the content. Anecdotal illustrations are given of the unfortunate effects of uniform requirements on the personality development of both academically gifted and handicapped students.

419. WESMAN, ALEXANDER G. "Separation of Sex Groups in Test Reporting," *Journal of Educational Psychology*, XL (April, 1949), 223-29.
Emphasizes that intelligence-test items are so devised as to eliminate sex differences and that on many tests differing norms are required because of sex differences. The author therefore suggests the desirability of separate vocational-goal norms, curricular norms, city norms, and the like.

CHILD DEVELOPMENT⁴

420. ANDERSON, JOHN E. *The Psychology of Development and Personal Adjustment*. New York: Henry Holt & Co., 1949. Pp. xvi+720.

An introductory textbook for students working in the field of human development. Several of the later chapters deal with problems of social and personal adjustment.

421. GESELL, A. L. "Some Educational Implications of a Science of Child Development," *Educational Outlook*, XXIV (November, 1949), 2-4.

Discusses the implications that the study of child development has for the educational welfare of the child, for growth at all ages, and for the handicapped child. Gesell believes that there has been too much stress on mechanisms of conditioning and habit formation at the expense of total developmental welfare.

422. JACKSON, LYDIA, and TODD, KATHLEEN M. *Child Treatment and the Therapy of Play*. New York: Ronald Press Co., 1950 (second edition). Pp. xiv+160.

Presents a discussion of the nature of play and its use in therapy for emotionally disturbed children. Provides a clear statement of the influences which shape the child's personality growth.

423. OLSON, W. C. "Education of the Young Child," *Annals of the American Academy of Political and Social Science*, CCLXV (September, 1949), 101-7.

Stresses the need, resulting from the increased birth rate, for enlarging facilities for study of, and training in, child development. Discusses such crucial issues as forced learning versus maturation, the value of the nursery school, adapting the

⁴ See also Item 100 (Dennis) and Item 107 (Roff) in the list of selected references appearing in the February, 1950, number of the *Elementary School Journal*; Item 142 (Olson), Item 162 (Jenkins, Shacter, and Bauer), and Item 163 (Lane) in the March, 1950, number of the same journal; and Item 265 (Beck) in the March, 1950, number of the *School Review*.

curriculum to the child, new techniques of projection in understanding the child, and the use of sociometric techniques.

PERSONALITY⁵

424. CATTELL, R. B., and TINER, L. G. "The Varieties of Structural Rigidity," *Journal of Personality*, XVII (March, 1949), 321-41.

After carefully discussing the three causes of structural rigidity and reviewing previous research, the writers describe an experiment in which seventeen tests of intelligence and rigidity were given to one hundred male college students. Statistical analysis of data led the writers to the conclusion that two and possibly three factors, in addition to low intelligence and low fluency, may produce rigidity. Theoretical analysis also suggested a causal explanation of rigidity.

425. DAMRIN, DORA E. "Family Size and Sibling Age, Sex, and Position as Related to Certain Aspects of Adjustment," *Journal of Social Psychology*, XXIX (February, 1949), 93-102.

Reports a study of 156 white, American-born girls, of Grades IX through XII, with a median age of sixteen years, to determine the effects of family size, family position, sibling sex and sibling age upon intelligence; academic achievement; and home, social, and emotional adjustment. Concludes that all the relations are negligible, except for the correlation (-.31) between family size and intelligence.

426. FRENKEL-BRUNSWIK, ELSE. "Intolerance and Ambiguity as an Emotional and Perceptual Personality Variable," *Journal of Personality*, XVIII (September, 1949), 108-43.

Discusses research into the problem of denial of emotional ambivalence and in-

⁵ See also Item 111 (Windsor) and Item 123 (Riemer) in the list of selected references appearing in the February, 1950, number of the *Elementary School Journal* and Item 501 (Havighurst and Taba) in the September, 1949, number of the *School Review*.

tolerance of cognitive ambiguity as different aspects of a fairly coherent characteristic. The writer's position is that the struggle between an orientation including strength of hostility, power-orientation, externalization, rigid stereotyping, and intolerance and an orientation including love, acceptance of drive-impulses, and general flexibility is basic to our civilization; that "individual members display these two patterns in varying proportions and changing configurations."

427. HAYES, MARGARET L. "Personality and Cultural Factors in Intergroup Attitudes," *Journal of Educational Research*, XLIII (October, 1949), 122-28. Reports an investigation of the kind and amount of prejudice held by a significant group of people toward two important minority groups (Jews and Negroes). A group of sixty-seven graduate students, largely teachers, distributed in sex and cultural group, were tested to determine prejudice and characteristic reactions to frustration.

428. MATHER, CHARLES C. "Character and Personality Development," *Bulletin of the National Association of Secondary School Principals*, XXXIII (December, 1949), 22-26. After observing that the developing of values is particularly important at the secondary-school level, because students are at the most malleable and idealistic period of their lives, the writer discusses the possibilities for developing character and personality through reading, discussing, and producing great drama.

429. "Mental and Physical Health," *Review of Educational Research*, XIX (December, 1949), 367-460. Reviews research in the field of mental and physical health since 1946. Emphasizes relationship of education to psychology and medical science.

430. SHACTER, HELEN. *How Personalities Grow*. Bloomington, Illinois: McKnight & McKnight, 1949. Pp. 256. This volume is addressed to young people of high-school age. The discussion of youth problems is focused on the everyday activi-

ties of youth and their relations with both peer and adult groups. Emphasis is placed on the influence that normal experiences have on personality development.

431. SHEERER, ELIZABETH T. "An Analysis of the Relationship between Acceptance of and Respect for Self and Acceptance of and Respect for Others in Ten Counseling Cases," *Journal of Consulting Psychology*, XIII (June, 1949), 169-75. Analyzes fifty-one statements, taken from recorded interviews, which reveal self-evaluation and fifty statements which reveal evaluative attitudes toward others. Results suggest that "acceptance and respect for self and acceptance and respect for others can be operationally defined and objectively rated with a satisfactory degree of reliability"; that much more interview time is spent in self-evaluation than in evaluation of others; that acceptance of, and respect for, self and others increased during the interview; that a correlation exists between the two measures; and that closer correlation between the two ratings appears as the interview progresses.

432. STOCK, DOROTHY. "The Self Concept and Feelings toward Others," *Journal of Consulting Psychology*, XIII (June, 1949), 176-80. Reports a study of ten nondirective counseling cases to determine (1) whether a general relationship existed between the feelings of an individual about himself and about others, (2) whether a change in one type of feeling affected the second, and (3) whether the general area of "feelings about others" could be differentiated into relatively independent areas.

433. WALLIN, J. E. WALLACE. *Personality Maladjustments and Mental Hygiene*. New York: McGraw-Hill Book Co., Inc., 1949 (second edition). Pp. xiv+582. A substantial revision of the 1935 edition. Provides a desirable orientation for students and administrators with respect to the aims and procedures of both the remedial and preventive aspects of the mental-hygiene program.

EDUCATIONAL WRITINGS



REVIEWS AND BOOK NOTES

EDWARD A. KRUG, *Curriculum Planning*. Education for Living Series. New York: Harper & Bros., 1950. Pp. xii + 306. \$3.00.

The complexity of the culture that engulfs American children demands continuous study and expansion of the curriculum if the school is to do its duty. Most students of contemporary society are convinced that the schools of the past have never adequately met the needs of any single generation of learners. The concern of these older schools was that of providing a limited curriculum prepared as a "course of study" by one person—or a limited number of persons—without regard for the children's psychological or social needs as individuals or for the teachers' or patrons' contributory abilities, needs, or interests.

Edward A. Krug would correct this practice, as he tells in his new book, *Curriculum Planning*, by using the talents of all persons concerned in the educative process in a ceaseless, co-operative venture of planning the curriculum. Krug portrays in a clear and interesting style much of the present-day thinking regarding the way the school curriculum should emerge and be perpetuated. Should the schools throughout the nation adopt the procedure proposed herein, democracy in education would be an actuality; for the author finds need for help, not only from the curriculum expert, but particularly from the teacher, the child, and other community members.

He establishes well his thesis of the necessity for continuous work on a flexible and changing curriculum. The curriculum as portrayed is literally the entire educational program. The book describes the aims and purposes of education and how they evolve, con-

tinues with a discussion of how and what to teach in order to help all persons associated with the school—each as an individual—become effectively educated for democratic living, and evaluates the entire process as it takes place.

This volume can be a distinct aid to those persons who have failed to see the uniqueness of the curriculum in contrast with the course of study or the variety of guides prepared for, or by, teachers; to those who have failed to comprehend the teacher's role in curriculum preparation in relation to all other contributors, from the state level down to the child or parent; or to those who have failed to note the many innovations, such as workshops, wherein democratic processes are utilized for curriculum workers.

The book is well documented, and much of its value is found in the abundance of illustrative materials provided. The outstanding criticisms of the book, as seen by this reviewer, are: (1) The author apparently is expressing himself at one time to an elementary-school teacher, then to a professor of education, then to persons who are to become teachers, and later to someone else. (2) Too much space is devoted to material irrelevant to the general context of the book; for example, much of chapter ii could be eliminated in light of what follows. (3) The book is rather repetitious. It should be said, however, that much of the repetition deals with the major points of fact contained in the book and that these points need stressing in order to give emphasis to the author's message.

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DUGALD S. ARBUCKLE, *Teacher Counseling*.

Cambridge, Massachusetts: Addison-Wesley Press, Inc., 1950. Pp. vi+178.
\$3.50.

The role of the teacher in the guidance program has long puzzled not only teachers themselves but administrators and counselors. Should teachers contribute more than routine reading of notices and reports, help with schedules and records? If the answer is in the affirmative, how can their job be defined and what methods and procedures, backgrounds and knowledge do they need to have at their command?

Teacher Counseling, by Dugald S. Arbuckle, provides possible answers for many of the questions in this area. The author believes that the teacher is the key person, not only in the guidance program, but in the whole educational system. Arbuckle's book, based on this premise, is divided into three parts. Part I discusses the meaning of, and need for, counseling, the nondirective point of view, and the traditional teacher. Part II consists of verbatim reports of actual conversations between teachers and students, and Part III is devoted to a discussion of the new or nondirective approach in the classroom.

Arbuckle realizes that, at present few teachers are prepared to counsel their students, and he calls for correction of this situation. He states that counseling is the core of a personnel system and that it is an approach which makes specialized training a necessity. He believes that every teacher should be trained to perform in this area but on a less specialized level than the counselor.

He advocates nondirective counseling and clearly differentiates this from the more directive giving of advice and information. He points out that, when a child seeks or accepts intellectual data, the child needs not counseling but information.

The author feels that counseling is neither sympathizing with, correcting, or judging the child but a means by which the counselee can gain understanding of himself so that he can solve his own problems. Under this

definition all problems become personal problems, and all teachers, as well as counselors, become students of personal adjustment. One of the main jobs of the teacher, therefore, is to create a positive emotional climate in which the child is able to work out his own problems.

Classroom incidents and discipline are treated so that emphasis is focused on the child and the reason for his behavior, rather than on the threat to the teacher. The problem becomes Mary, not her lying. Home rooms are intelligently but briefly discussed. The scientific value of tests is not questioned, but the need for combining their results with counseling, so that the student is able to accept test results and act on them, is stressed. The theses that available tests should be explained to students and that they should help select the tests to be taken may surprise some readers. Yet, if the counseling situation is satisfactory, the child should neither resent nor fear the tests which may bare his problems. Thus, tests should be administered only after rapport is established and only at the desire of the student.

Arbuckle has done much to clarify the role of the teacher, to differentiate between the traditional and the nondirective approaches. His verbatim reports of actual cases are enlightening. However, the fact that counseling, on any level, demands careful, intelligent training has not been adequately stressed. Until teachers are given supervised practice in counseling, either before graduation or through in-service programs, little progress will be made in the field of teacher counseling.

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LESTER B. SANDS, *An Introduction to Teaching in Secondary Schools*. New York: Harper & Bros., 1949. Pp. xiv+422.
\$3.00.

A recent publication by Sands, *An Introduction to Teaching in Secondary Schools*, is a

practical handbook that deals with most of the professional questions confronting the beginning teacher and sets out in unexpected detail most of the educational methods, materials, and principles of learning found in American secondary schools. The book should prove useful to student teachers who are preparing to work at the secondary-school level.

It may prove even more useful to a beginning teacher preparing to assume responsibility in his own classroom. The early chapters cover such issues as the factors relevant to deciding on one's first position, the specifications of one's contract, and some preparations one can make to become somewhat familiar with the community and its people before the start of the school year. This introductory material is followed by a careful delineation of some of the usual responsibilities that a teacher will be expected to carry in the co-curricular and community-service areas.

A detailed analysis of educational methods and procedures, starting with the lecture method and proceeding through the socialized recitation to the project method, is offered in chapter vi. These descriptions are of value for purposes of orientation of teachers in training. This reviewer remained unimpressed, however, by the author's apology for the lecture method, especially with reference to the secondary school, and wondered what he hoped to prove by stating: "In spite of the critics, the lecture has maintained its place in the university as the most widely and consistently used method" (p. 123).

In discussing the problems of counseling and guiding students, Sands underlines the facts that the focus of activity in our schools has turned "from learning materials to the learner" (p. 143) and that "education is recognized as the process of aiding students to become progressively more self-aware and self-controlled" (p. 156). In chapter viii, entitled "Teacher Leadership and Class Control," the author deals with the problem of organizing learning experiences which best insure high individual and group productiv-

ity. With respect to classroom control or discipline, he emphasizes that misbehavior represents attempts by the learner to adjust to his emotional and social problems. These symptoms, the author points out, are to be used "as starting points for studying pupils and developing procedures for individual readjustment" (p. 177). A list of teaching techniques for helping teachers to prevent, or at least not to set off, troublesome and socially unacceptable behaviors in the classroom should prove of interest and value, not only to beginning, but also to veteran, teachers.

An excellent overview of the contributions of psychologists to educational thinking, from the early experiments of Wundt to the contributions of contemporary schools of psychology, appear in chapter x, entitled "Using Psychology in Education." An outline of the bases of present-day testing in our schools follows the material on psychology in education. A substantial list of many of the more acceptable and most commonly used tests in the areas of mental ability, achievement, subject fields, special abilities, and personality amplify the author's analysis of tests in the instructional process.

Audio-visual aids come in for a fair share of the author's attention. He identifies some of the criteria by which to guide selection of sensory aids. The discussion of audio-visual techniques ends with notes on radio in education and speculation regarding television as an educational device in our schools.

The book closes with two chapters offering strikingly complete, though highly compressed, surveys of the philosophical bases of modern education and the historical backgrounds of American education. The latter chapter was perceived by the reviewer as appended to the book as a kind of afterthought. It is a worth-while afterthought, however, if only for its review and analysis of the work of the Eight Year Study and its implications for American education.

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CURRENT PUBLICATIONS RECEIVED

METHOD, HISTORY, THEORY,
AND PRACTICE

ALEXANDER, CARTER, and BURKE, ARVID J. *How To Locate Educational Information and Data: An Aid to Quick Utilization of the Literature of Education*. New York 27: Bureau of Publications, Teachers College, Columbia University, 1950 (third edition). Pp. xx+444. \$4.50.

BAYLES, ERNEST E. *The Theory and Practice of Teaching*. Education for Living Series. New York 16: Harper & Bros., 1950. Pp. x+362. \$3.00.

BURGER, ISABEL B. *Creative Play Acting: Learning through Drama*. New York 3: A. S. Barnes & Co., 1950. Pp. xvi+200. \$3.00.

GARRISON, KARL C. *The Psychology of Exceptional Children*. New York 10: Ronald Press Co., 1950 (revised). Pp. xviii+518. \$4.50.

GUTHRIE, EDWIN R., and POWERS, FRANCIS F. *Educational Psychology*. New York 10: Ronald Press Co., 1950. Pp. vi+530. \$4.00.

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JACKSON, LYDIA, and TODD, KATHLEEN M. *Child Treatment and the Therapy of Play*. New York 10: Ronald Press Co., 1950 (second edition). Pp. xiv+160. \$2.50.

MEHL, MARIE A.; MILLS, HUBERT H.; and DOUGLASS, HARL R. *Teaching in Elementary School*. New York 10: Ronald Press Co., 1950. Pp. viii+542. \$4.50.

STAFF OF INTERGROUP EDUCATION IN COOPERATING SCHOOLS. *Elementary Curriculum in Intergroup Relations: Case Studies in Instruction*. Intergroup Education in Cooperating Schools Work in Progress Series. Washington 6: American Council on Education, 1950. Pp. xiv+248. \$2.50.

Toward Improved Curriculum Theory. Papers Presented at the Conference on Curriculum Theory Held at the University of Chicago, October 16 and 17, 1947. Compiled and edited by VIRGIL E. HERRICK and RALPH W. TYLER. Supplementary Educational Monographs, No. 71. Chicago 37: University of Chicago Press, 1950. Pp. vi+124. \$2.75.

BOOKS FOR HIGH-SCHOOL TEACHERS
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BRONTË, CHARLOTTE. *Jane Eyre*. Introduction by JOE LEE DAVIS. New York 16: Rinehart & Co., Inc., 1950. Pp. xxxii+526. \$0.75.

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COOPER, JAMES FENIMORE. *The Prairie: A Tale*. Introduction by HENRY NASH SMITH. New York 16: Rinehart & Co., Inc., 1950. Pp. xxvi+454. \$0.75.

DICKENS, CHARLES. *Great Expectations*. Abridged with Introduction and Notes by BLANCHE JENNINGS THOMPSON. New York 17: Harcourt, Brace & Co., 1950. Pp. xiv+306. \$1.56.

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Frederick Jackson Turner's Address on Education in a United States without Free Lands. Edited by FULMER MOOD. Reprinted from *Agricultural History*, XXXIII (October, 1949). Madison, Wisconsin: Fulmer Mood (% University Club).

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Prepared in the Department of Instruction and Guidance by LOUIS V. NEWKIRK. Curriculum Brochure Series, No. 1. Chicago 1: Board of Education, 1949. Pp. 32.

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UNESCO (United States Sales Agent: Columbia University Press, New York 27, New York):

Occasional Papers in Education, No. 2, 1949—"Suggestions for the Preparation of Reading Matter" by ISMAEL RODRIGUEZ BOU. Pp. 30 (processed).

Occasional Papers in Education, No. 3, 1949—"Adult Education in Rural Communities" by YANG HSIN-PAO, and "Developing Adult Education Programmes" by HOMER KEMPFER. Pp. 28 (processed).

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UNITED STATES ATOMIC ENERGY COMMISSION. *Isotopes: A Three-Year Summary of Distribution, with Extensive Bibliography.* Washington 25: Government Printing Office, 1949. Pp. iv+202. \$0.45.

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